

# An Electricity Action Plan for:



The CITY of  
**EDINA**

Draft Updated 6/2/16



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# Executive Summary

## Our Vision:

Edina’s residents, schools, businesses, and government will successfully reduce the community’s greenhouse gas emissions by 30% by the year 2025 through strategies and actions that are sustainable, practical, and measurable.

## How Will We Get There?

The City will focus on these near-term priority areas:

### Municipal Facilities

**Strategies:**

- Implement recommended energy use reduction projects from building study currently being conducted by CR-BPS
- Negotiate renewable purchase for municipal electricity

### Residential Information Campaign

**Strategies:**

- Drive traffic to a City-operated web resource through City communications channels
- Foster neighborhood-based outreach and leadership
- Leverage outreach events for Windsource® sign-up
- Assess and recommend policy options to support efficiency for Edina residents

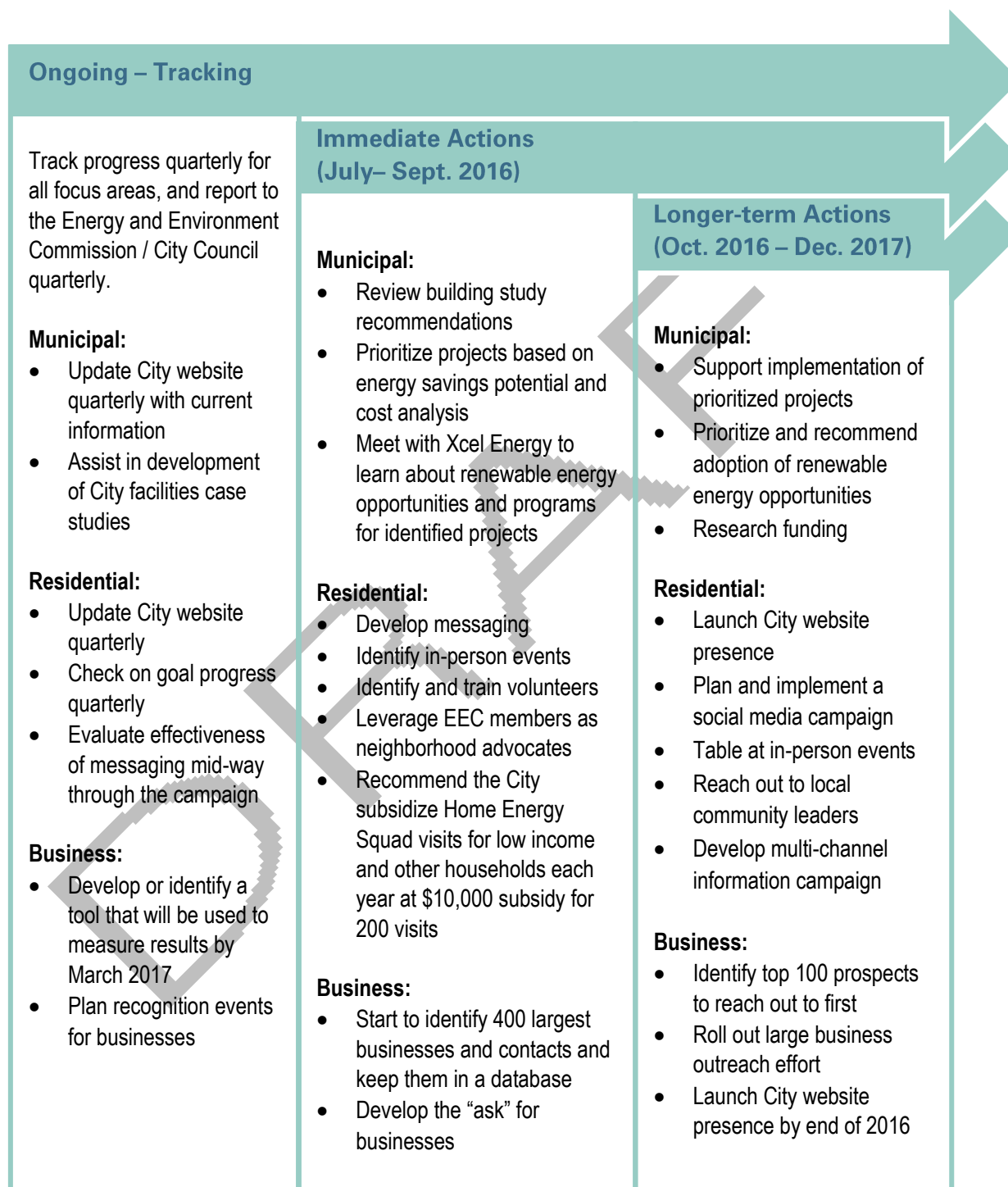
### Business Energy

**Strategies:**

- Engage the top business energy users to take action on greenhouse gas through offsets and reductions
- Target smaller businesses such as restaurants, retail, and others with recognition programs
- Ongoing management and tracking
- Assess and recommend policy options to support greenhouse gas reduction for Edina businesses

## Playbook for Achieving Our Goals

More details on actions and strategies may be found in the section “How Are We Going To Get There? –Strategies” starting on page 32.



## Introduction

The purpose of this plan is to outline tangible steps for the City of Edina to move the community towards its greenhouse gas goals, by increasing energy efficiency investments and the use of renewable electricity across the community. This plan focuses first and foremost on the electricity sector, and both informs the community about Edina's current state of electricity use, and provides the necessary framework to continue working toward the City of Edina's defined greenhouse gas emissions reduction targets through electricity oriented strategies. While natural gas is not explicitly analyzed or tracked in this plan, several plan strategies will also be leveraged to reduce Edina's natural gas footprint, as detailed in section "How Are We Going To Get There? – Strategies" starting on page 32.



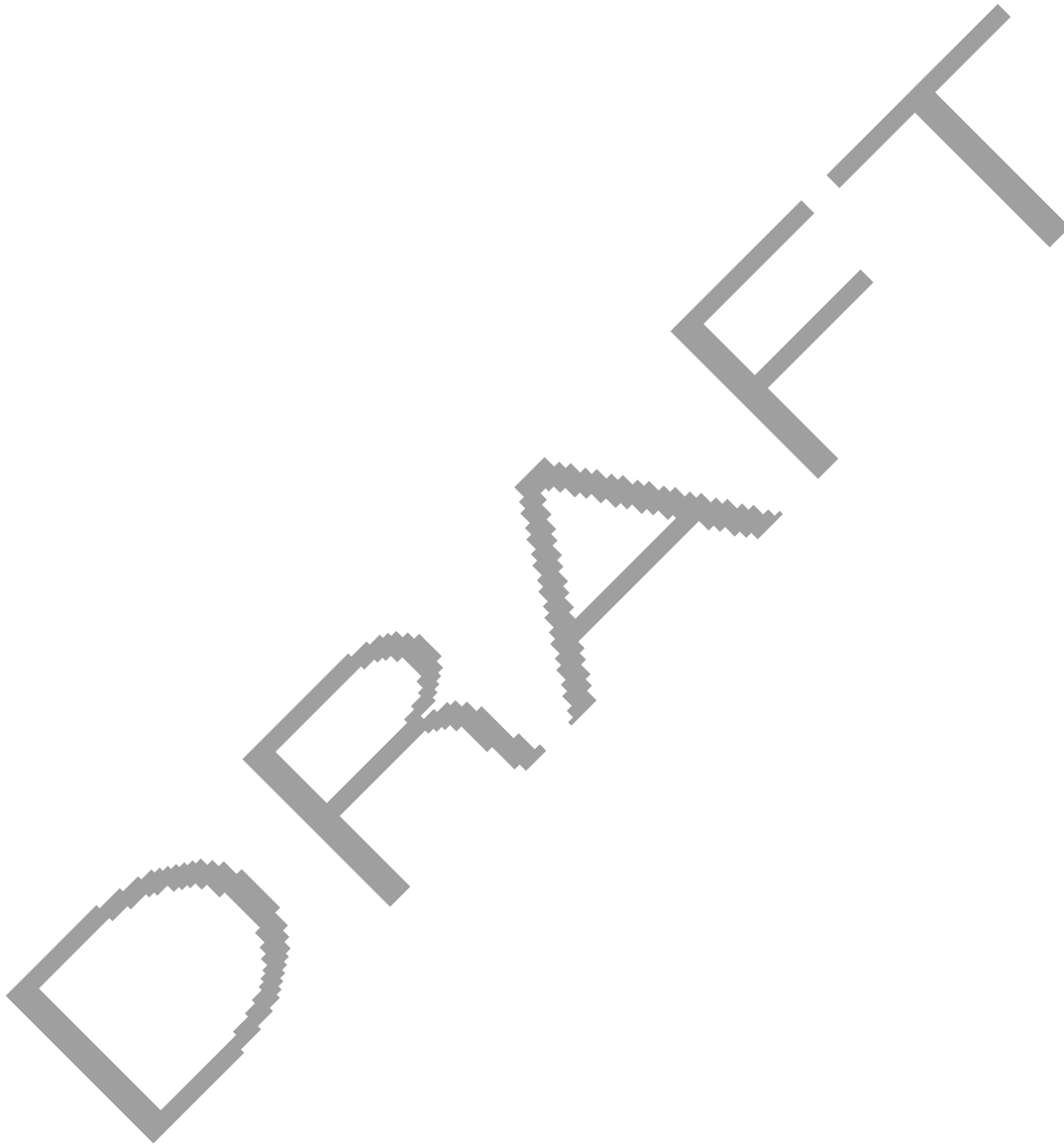
Photo by Gephart / CCBY

In June of 2015, Edina's City Council signed a Memorandum of Understanding with Xcel Energy to participate in Partners in Energy (see Appendix 8). From October 2015 to April 2016, a 12-member Energy Action Team appointed by the Edina City Council participated in a series of workshops to develop the contents of this Energy Action Plan alongside representatives from Xcel Energy, Edina's electricity provider. The team was comprised of Edina residents, members of Edina's Energy and Environment Commission, City staff, and representatives from Edina School District and the Chamber of Commerce.

The planning team reviewed electric energy data, prioritized areas of focus for Edina, and developed this Energy Action Plan. Although Edina's greenhouse gas reduction goals span many sources of greenhouse gas emissions, the work this Energy Action Team has done has focused primarily on electricity, which makes up approximately 40% of Edina's greenhouse gas emissions. The group would like to carry out this plan to help the community work toward short- to mid-term electric energy goals in conjunction with other strategies and actions targeting additional sources of greenhouse gas emissions, including natural gas. Included in this plan is detailed action planning for meeting short-term identified electric energy goals over an 18 month initial implementation period (July 2016-December 2017).

The process was facilitated through Xcel Energy's Partners in Energy offering for communities, and convened by the City of Edina and the Edina Energy and Environment Commission. The Energy and Environment Commission pursued Partners in Energy as a way to work toward meeting their existing greenhouse gas emissions targets and expand community participation in sustainability.

The following plan provides an overview of the Edina community, the community's baseline electricity use, documentation of the Partners in Energy planning process, a summary of priority focus areas identified by the Energy Action Team for implementation, and the near-term actions and strategies required to keep the implementation of this plan on track.



## The City of Edina – Community Background



**Southdale Mall**  
Photo by Bobak Ha'Eri / CCBY

The City of Edina's mission is to provide effective and valued services, maintain a sound public infrastructure, offer premier public facilities and guide the development and redevelopment of lands, all in a manner that sustains and improves the uncommonly high quality of life enjoyed by our residents and businesses.

The City's vision is to be the preeminent place for living, learning, raising families and doing business distinguished by:

- a livable environment,
- effective and valued city services,
- a sound public infrastructure,
- a balance of land uses, and
- innovation.

Edina is located in the first ring of suburbs within the Twin Cities metropolitan area, and is part of Hennepin County. Nearly 48,000 residents call Edina home. Edina is known for the high quality of life experienced by residents, and also houses a vibrant retail community, including the Southdale Shopping Center, Galleria Edina, and the 50<sup>th</sup> and France shopping district.

### Edina Facts and Figures

<b>County</b>	Hennepin
<b>Metro Area Location</b>	Directly west of Minneapolis
<b>Size</b>	15.97 sq. miles
<b>Development</b>	95% developed
<b>Population</b>	49,596 in 2014
<b>Population Density</b>	1,460 housing units per sq. mile 3,103 inhabitants per sq. mile

### Demographics

Nearly a quarter of the population is under 18, and 20% of the population is over 65. The average household size is 2.34, and most people have stayed in their homes for more than a year, with 88% of residents living in the same home as a year ago. Just over half the population, 53.4%, is female. Edina is one of the most affluent suburbs of Minneapolis with a

median household income of \$84,349. Between 2009 and 2013, four percent of Edina residents were living in poverty.

### Businesses & Employment

Edina has a prominent business community and contains a mix of large and small retail, health care, corporate offices, and food businesses. Major Edina employers include: Fairview Southdale Hospital, Edina Public Schools, City of Edina, BI Worldwide, Regis Corporation, Barr Engineering, Lund Food Holdings, International Dairy Queen, Edina Realty, and FilmTec Corporation<sup>1</sup>. The Edina Chamber of Commerce has a membership of over 400 and holds monthly meetings and three annual events. Other large business organizations include Edina Rotary Club, with 160 members, and the 50<sup>th</sup> and France Business

Association. Twenty-three and a half percent of people who work in Edina are Edina residents, higher than St. Louis Park (17.7%), and lower than Bloomington (29.9%)



50<sup>th</sup> and France

Photo by Meet Minneapolis/ CCBY

### A Cross Section of Edina's Community Assets

Highlights from community members' feedback during the planning workshops

- Good city management
- Engaged community
- Community reputation
- Great schools
- Shopping
- Accessibility to metro area; location
- Bike Trails

### Education

Edina has both public and private schools serving its students. All of the public schools fall under the Edina School District, ISD 273. There are approximately 8,500 students in Edina public schools, between six elementary schools, two middle schools, and one high school. In 2015, a referendum was passed for \$124.9 million in funding for

the purposes of updating learning spaces and enhancing building security at the district's schools, while improving district infrastructure. Edina schools leverage "service learning," a teaching strategy that engages students in addressing community issues or needs as part of their academic study. In Edina, part of this is manifested in a Passion Project and a May Term during high school. Almost a third of Edina households have children under the age of 18. There is a green team at the school called Project Earth.

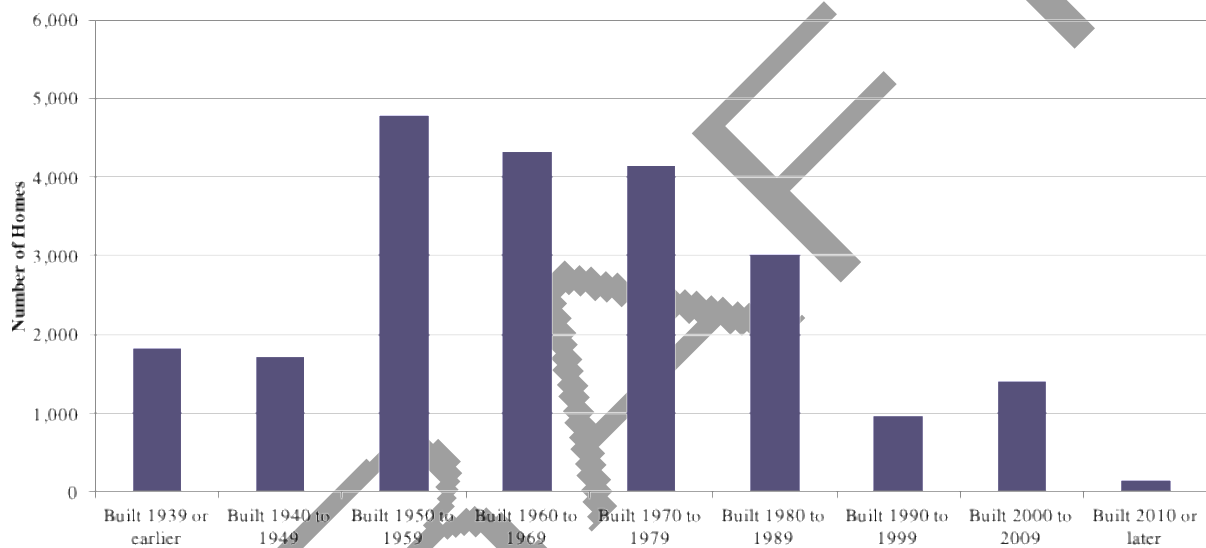
Almost 98% of Edina residents 18 or older have obtained a high school diploma. Sixty-seven percent have received a Bachelor's degree or higher. Edina has four private schools.

<sup>1</sup> City of Edina Website (<http://edinamn.gov/index.php?section=community-profile>)



## Housing

The total number of housing units in Edina is 22,360, and 74.8% are owner occupied. Edina has a low homeowner vacancy rate of 2.3% and rental vacancy rate of 11.7%. Neighborhoods in Edina are recognized by the City through the voluntary formation of neighborhood associations. The City has a total of 35 neighborhoods, and nine are recognized neighborhood associations. Much of Edina's housing stock was built between 1950 and 1979 (see below). The majority of Edina housing is detached single family homes (72%), although several multi-family buildings have been recently built or are in development. More than 100 home building permits were issued annually in 2014 and 2015. There is relatively high participation in Energy Star Homes, an energy efficiency program for new homes, with 46 participants within the past three years.



**Figure 1: Original Year of Construction for Edina's Housing Stock**

## Commitment to Sustainability



**Edina City Hall**  
Photo by Gephart / CCBY

Edina's participation in Partners in Energy was preceded by several years of sustainability work. The City of Edina established a citizen Energy and Environment Commission (EEC) in 2007 to promote sustainability initiatives and to advise the City Council. The commission is comprised of Edina residents and has several working groups and subcommittees which focused on specific sustainability topics. The commission creates a work plan annually,

and the focus has been on carbon reduction. A presentation outlining Energy and Environment Commission activities, climate change goals, and recommendations to the City of Edina is included as Appendix 3. This presentation was shared with the Energy Action Team in Workshop 2.

It will be essential to coordinate the Energy Action Plan so that it fits well with what the community is already doing. The City plans to leverage a new conservation and sustainability fund to add a full time position focused on sustainability within the City in the fall of 2016.

#### Selected Citywide Sustainability Actions Related to Energy and Climate

<b>2007</b>	Became a participant in the Regional Indicators Initiative (RII) Established Energy and Environment Commission (EEC) Signed U.S. Mayor's Climate Protection Agreement Became an ICLEI City for Climate Protection
<b>2008</b>	Included a chapter on Energy and Environment in the Comprehensive Plan
<b>2009</b>	Completed Greenhouse Gas Inventory under direction of the EEC
<b>2010</b>	Began benchmarking City Buildings Installed a closed loop geothermal system at the Public Works building with a minimum coefficient of performance of 3.3
<b>2011</b>	Entered into a Guaranteed Energy Savings Contract—12 City buildings audited and actions taken Joined GreenStep Cities (Currently Step 3) Installed solar panel system on the roof of City Hall
<b>2012-2016</b>	Variety of LED lighting retrofits at City Hall, Public Works, Edinborough Park, 50 <sup>th</sup> and France Ramps, and others.

A core priority of the City and the EEC has been to lead by example by operating City facilities sustainably. The City of Edina utilizes B3 benchmarking data to track energy use for heating and cooling in public facilities; most buildings also have a centralized HVAC control system that allow operators the ability to track and control on a daily basis. B3 data is entered for all municipal buildings and is kept current by the Finance department. Trends and energy savings opportunities are reviewed and an annual summary is provided to the Energy and Environment Commission.

In 2011, the City contracted with McKinstry under the Guaranteed Energy Savings Program. Under the contract, the 12 largest municipal facilities were audited. This energy audit identified and implemented the following efficiency improvements: building envelope insulation, water conservation, and interior lighting retrofits. This retrofit project included 11 separate City buildings. The performance contract project was projected to reduce energy use by over 540,000 kWh and 19,600 therms of gas on an annual basis, reduce the City's carbon footprint



by 540 metric tons of CO<sub>2</sub> annually, and qualified for a guaranteed annual savings of approximately \$54,000.

Additionally, the City's 2008 Comprehensive Plan outlines the following goals (Chapter 10):

- GHG reduction goal: 15% reduction by 2015, 25% reduction by 2025, 80% reduction by 2050.
- Develop a local action plan.

The basis for setting the greenhouse gas reduction level was set by state policy established in the 2007 Next Generation Energy Act. The state goal in statute is to reduce emissions 30% by 2025, not 25%, and this discrepancy was addressed through this planning process.

Edina's energy work for local business includes the Edina Emerald City Energy Program (EEEP), which includes financing, promotion of efficiency and renewable energy, and recognition of businesses. Through this program, Edina was the first local government to launch a property assessed clean energy (PACE) service to allow commercial properties to repay energy loans using an assessment on their local property taxes. EEEP won the 2012 Environmental Initiative award for energy and climate protection.

Edina joined ICLEI (International Council for Local Environmental Initiatives) in 2007, and completed a baseline Greenhouse Gas Inventory in 2009. The inventory calculated that 55% of Edina's CO<sub>2</sub> output on 2007 resulted from a combination of residential electrical consumption and commercial and industrial electrical consumption. Other factors measured included: residential, commercial, and industrial natural gas usage; other service and public authority electrical usage; public streets and highway lighting electrical usage; and Edina vehicle miles traveled (VMT).

Additionally, the Energy and Environment Commission worked closely with Xcel Energy and CenterPoint Energy to bring the Home Energy Squad Enhanced (HES) program to residents. The City of Edina has brought down the cost of the visit to \$50 for residents, making the program affordable for more households. The program is promoted through the EEC's Education & Outreach Working Group with door hangers and participation in the annual 4th of July parade and other community outreach.



**Home Energy Squad Enhanced**

Edina recently supported renewable development through the creation of a model lease for Community Solar Gardens (CSG) through participation in a solar power purchase initiative through the Metropolitan Council and has signed contracts with two developers for multiple megawatts of installation. Edina is slated to be the first city to host a rooftop lease, and is

making all bid documents available for other public agencies to use. Additionally, the City established a Conservation and Sustainability fund in late 2015, leveraging a utility tax, in part to add a City staff position focused on conservation and energy activities. It is anticipated that this staff member will be hired in summer of 2016, and play a significant role in implementing this action plan.

## **Community Communications and Outreach**

Engaging the community is critical to reaching this plan's goals. Below are some of the ways that Edina's residents and businesses currently receive information. These communication channels will be helpful during implementation efforts. The City has a robust communications staff which will be able to support implementation of this plan, and also has the capacity to produce videos.

Edina hosts a variety of annual events and structured outreach opportunities that could bring program awareness to residents and businesses.

The City uses a variety of social media platforms to communicate with residents. Their portfolio includes: Facebook, Foursquare, Blog, Twitter, and YouTube. The City of Edina website is used by residents and businesses to look up information. Additional channels are listed below:

*About Town:* A quarterly publication of the City of Edina produced to keep Edina residents informed of new activities and programs that are important to them. Articles of interest about citizens and community history are included as well. The magazine is distributed to all households in the City and most businesses, with a total circulation of 25,000.

*City Extra:* An email subscription that provides residents with updates from City Hall, city departments, and city facilities.

*Edition Edina:* A newsletter summarizing news of the City of Edina, based on the City Council's six strategic priorities: infrastructure, commercial and mixed-use redevelopment, workforce, communication and engagement, community vision and aviation noise.

*Edina to Go:* A smartphone app to facilitate communication with the City.

### **Annual Events in Edina**

- Winter Ice Festival
- Taste of Edina
- Edina Dialogue Forum
- Edina Art Fair
- Parade of Boats
- Annual Independence Day Parade and Fireworks
- Night to Unite
- Lighthouse Night
- Fall into the Arts Festival
- Barnyard Boogie
- Indoor Music in the Park
- Pumpkin Festival
- Outdoor Concerts, Entertainment, and Movies in the Park

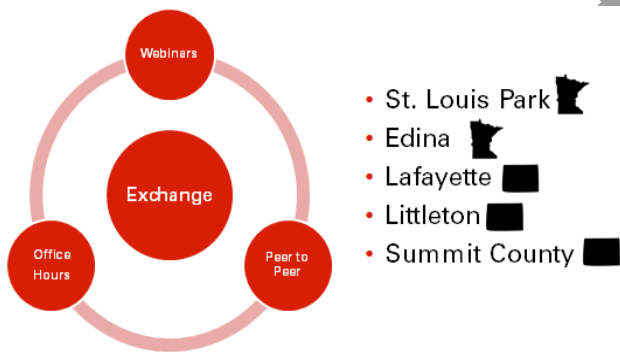
*Friday Report:* A weekly Friday Report for the City Council about current City operations and activities, prepared by the City Manager. It previews matters that will concern Council Members in the near future.

*SunCurrent:* A newspaper delivered weekly to Edina’s residents.

Results from the 2013 Edina Residential Survey show that the top principal information sources for residents about city government and its activities were the local newspaper (37%), the City newsletter (35%), and the City website (12%).<sup>2</sup>

**Xcel Energy Partners in Energy**

Xcel Energy is the electricity service provider for Edina residents and businesses. Partners in Energy is an offering developed for Xcel Energy communities in Minnesota and Colorado that supports communities in the development and implementation of a customized energy action plan. The service was launched in 2014, and Edina was chosen as the fifth Minnesota community to participate. Other Minnesota communities at the time of this writing are the Lake Street/Midtown Greenway Corridor in Minneapolis, the Cities of Maplewood, Red Wing, and St. Louis Park, and Ramsey County’s Parks and Recreation Department. There are currently six Colorado communities participating. The offering has a history of working with communities to establish plans that reduce energy use and promote renewables that drive cost savings and greenhouse gas emissions.



**Edina's Exchange Communities**

The objective of the Partners in Energy planning process is to allow communities to develop actionable plans that advance their goals while being supported by Xcel Energy’s technical expertise, facilitation process, and program knowledge. After six months of planning, Xcel Energy continues to support partnering communities by providing plan implementation assistance over the course of 18 months.

In addition to planning workshops, communities can participate in joint learning opportunities with three to five other Partners in Energy communities, forming an “Exchange.” Exchanges meet for office hour calls, webinars, and peer-to-peer conversations developed around topics that support planning and implementation tasks. The goal of these interactions is to allow for collaboration between communities and access to experts in the field.

<sup>2</sup>[http://edinamn.gov/corecode/uploads/document/uploaded\\_pdfs/corecode\\_edina/2013%20Edina%20Survey%20Results\\_62.pdf](http://edinamn.gov/corecode/uploads/document/uploaded_pdfs/corecode_edina/2013%20Edina%20Survey%20Results_62.pdf)

## Energy Action Team

The City of Edina worked to ensure a range of Energy Action Team members, and issued an open call for applications on the City's Facebook page, website, and in the Sun Current. Volunteers were asked to commit to attending planning workshops, have an interest in energy and related topics, and the ability to represent and educate the community. In addition to four at-large citizen members, three Energy and Environment Commission members, two City staff members, one Chamber of Commerce appointed member, and one School District appointed member were solicited. The City Council reviewed applications and made appointments on September 1, 2015.



**Edina's Energy Action Team**

**Front Row:** Richard Manser, Jenny Edwards, Sarah Klauer

**Middle Row:** Tami Gunderzik, Bill Sierks, Kevin Schwain, Curt Johanson, Sarah Zarrin, Carolyn Jackson, Rozy Eastaugh, Yvonne Pfeifer

**Back Row:** Ross Bintner, Kyle Sawyer, Roy Jenson, Rick Murphy, Kevin Staunton

## Edina's Energy Action Team

### City of Edina

- a) Ross Bintner, Environmental Engineer, City of Edina
- b) Kyle Sawyer, Assistant Finance Director, City of Edina
- c) Kevin Staunton, City Council Member, City of Edina

### Energy and Environment Commission

- d) Bill Sierks
- e) Richard Manser
- f) Sarah Zarrin

### Business and Organizations

- g) Rick Murphy, Chamber of Commerce
- h) Curt Johanson, Edina School District

### Residents

- i) Carolyn Jackson (appointed to EEC in 2016)
- j) Marshall Silberstein
- k) Roy Jenson
- l) Rozy Eastaugh

### Xcel Energy Representatives

- m) Tami Gunderzik, Partners in Energy Program Manager
- n) Yvonne Pfeifer, DSM Community Manager
- o) Kevin Schwain, Product Strategy and Development Director, Edina Resident
- p) Michelle Swanson, Community and Local Government Relations Manager, Edina Resident
- q) Jenny Edwards, Partners in Energy Facilitator
- r) Sarah Klauer, Partners in Energy Facilitator
- s) Emma Struss, Partners in Energy Facilitator

### Workshop Guests

- a) Scott Neal, City Manager, City of Edina (Workshop 1)
- b) M. Sarah Schaffer, Senior Administrator of Energy Efficiency Programs, CenterPoint Energy (Workshop 2)

At the beginning of the planning process, Energy Action Team members filled out a welcome survey. The survey showed that over half of team members had lived in Edina for more than 10 years, with 9% living in Edina for 2-5 years and 9% living in Edina 0-2 years. Twenty-seven



percent of the team did not live in Edina. Fifty-four percent of the team worked in Edina, and 82% of the team considered energy as part of their job. The team's energy literacy was split between advanced (46%), intermediate (27%), and beginner (27%).

## Planning Process

The content of this plan is derived heavily from a series of five planning workshops. Xcel Energy's role in the planning process was to facilitate the workshops, provide electricity use data, program participation data, and other technical data as available, to advise the community on effective strategies and actions, and to produce this energy action plan based upon the community's input and feedback. A central emphasis throughout the process is community ownership of the energy plan, which requires active participation and broad input.



### Xcel Energy's Partners in Energy Planning Process

The workshops were led by community facilitators from the Center for Energy and Environment and attended by Xcel Energy staff. An overview of the major activities at each workshop is included on the following page. A more detailed overview of each workshop can be found as Appendix 2.

The Energy Action Team met for the first time in October of 2015 and continued meeting via workshops and phone calls through May 2016. The primary planning objectives were to develop a unifying vision for Edina's energy future, to share information on the existing activities within the community, to develop priority focus areas for near-term implementation, and to work through detail on strategies, goals, and the initial work plan during implementation. A summary of each of the five in-person workshops is listed on the following pages, and additional information is located in Appendix 2.

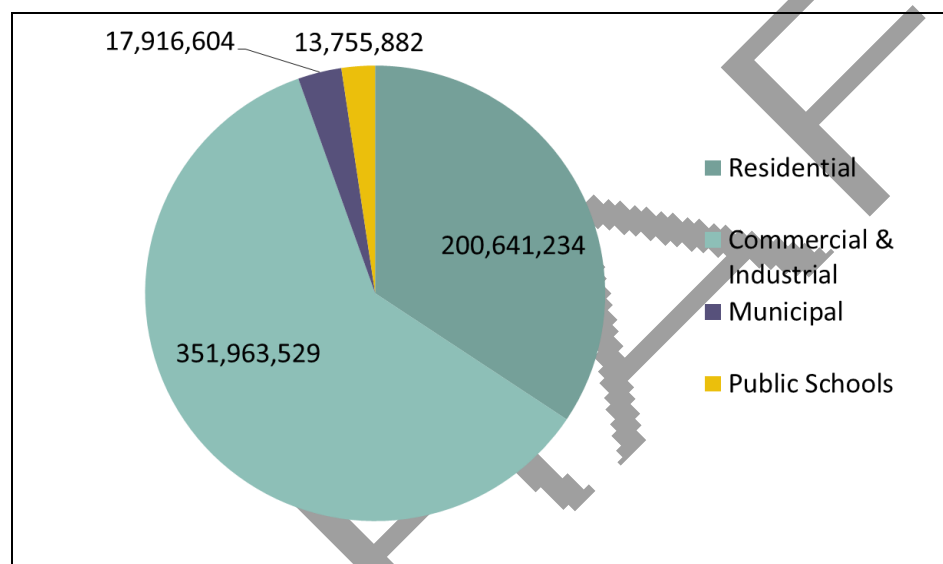
## Partners in Energy Workshop Process

<b>Workshop 1</b> <b><i>October 14, 2015</i></b>	<ul style="list-style-type: none"> <li>• Team introductions and Partners In Energy process overview</li> <li>• Review of baseline energy data &amp; past energy initiatives</li> <li>• Discussion of community assets and energy vision</li> </ul>
<b>Workshop 2</b> <b><i>December 15, 2015</i></b>	<ul style="list-style-type: none"> <li>• Review of Workshop 1 and team introductions</li> <li>• Presentation by the Energy and Environment Commission</li> <li>• Review of Xcel Energy's sustainability initiatives</li> <li>• Review of data pertaining to residential and business energy use</li> <li>• Discussion and brainstorm of focus areas</li> </ul>
<b>Workshop 3</b> <b><i>January 21, 2016</i></b>	<ul style="list-style-type: none"> <li>• Welcome and recap of Workshop 2</li> <li>• Prioritization and selection of focus areas</li> <li>• Small groups work on draft goals and strategies for each selected focus area</li> </ul>
<b>Workshop 4</b> <b><i>February 23, 2016</i></b>	<ul style="list-style-type: none"> <li>• Welcome and review of selected focus areas, adding a business focus area</li> <li>• Review data on GHG emissions and reduction impact</li> <li>• Presentation on City facilities and opportunities</li> <li>• Small groups work on strategies and goals for each selected focus area</li> </ul>
<b>Workshop 5</b> <b><i>April 4, 2016</i></b>	<ul style="list-style-type: none"> <li>• Welcome and review of activity that has taken place between Workshops 4 and 5.</li> <li>• Windsource® focus area is moved to the residential and business focus areas</li> <li>• Small groups work to refine strategies and place actions on timelines.</li> </ul>
<b>Post-Workshop 5 Calls</b> <b><i>April 29, May 6 2016</i></b>	<ul style="list-style-type: none"> <li>• Small groups discussed detailed action planning for each focus area</li> </ul>

## Where Does the Community Stand? – Baseline Electricity Analysis

An early step in the Partners in Energy planning process was to review the current electricity use in the city of Edina.<sup>3</sup> The Xcel Energy project team calculated community electricity statistics from the past three years of available data (2012-2014) to help the planning team understand how and where electricity is currently used in the community.<sup>4</sup>

In 2014, the community used a total of 584 million kWh of electricity. Figure 2 shows the breakdown of that electricity use by residential homes, commercial and industrial businesses, municipal, and public school properties. Commercial and industrial use accounted for 60% of the community total, residential use was 34%, and municipal and school operations were 5%. The total energy-related electricity expenditures in 2014 were \$59.2 million (not including taxes, franchise fees, or other costs).



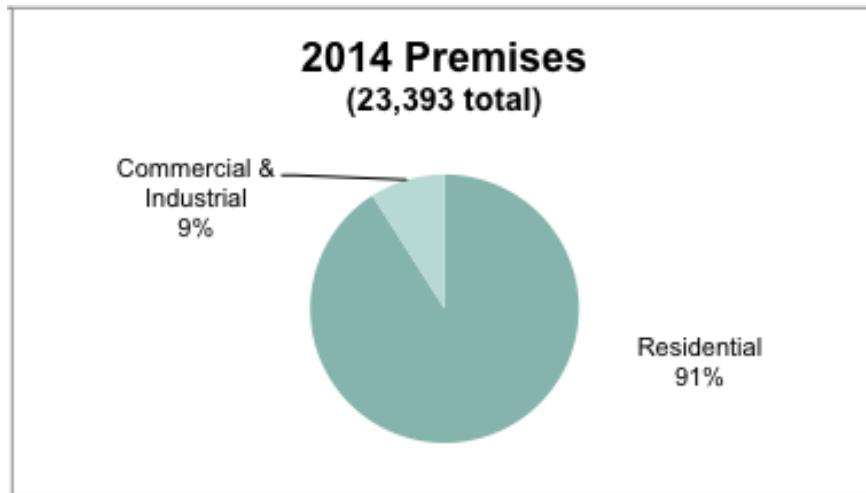
**Figure 2: Segmented Community-Wide Electricity Use in 2014 (kWh)**

<sup>3</sup> Xcel Energy is the electricity service provider in Edina; natural gas service is provided by CenterPoint Energy.

<sup>4</sup> All energy data presented through this process was developed for planning purposes, and therefore it may contain some variation from data obtained through other sources. All energy and program data presented here complies with Xcel Energy's 15x15 data privacy rules (all summary statistics must contain at least 15 entities, and no single entity can be responsible for more than 15 percent of the total or they will be removed from the summary). In Edina, no entities were removed from these summary statistics.



Xcel Energy served 23,393 total premises in Edina in 2014.<sup>5</sup> Ninety-one percent of those premises are residential, while commercial and industrial buildings (including schools and municipal properties) comprised 9% of the total number of premises.



**Figure 3: Edina Community-wide Electricity Use in 2014**

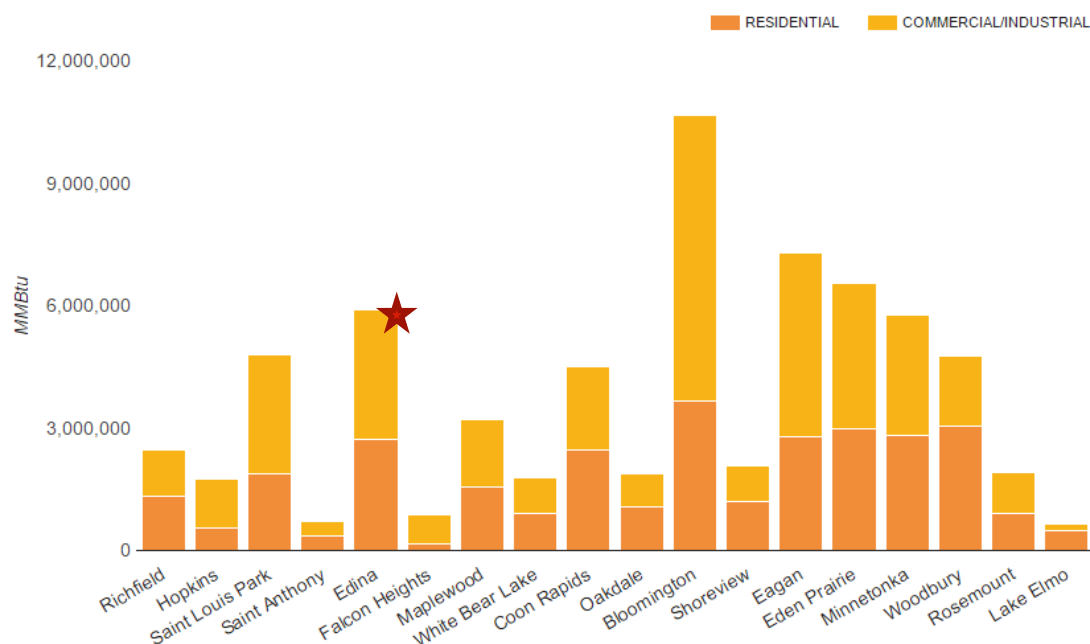
Figure 4 shows Edina's electricity use compared to previous Minnesota Partners in Energy communities, for a sense of scale and comparison. Note that St. Louis Park and Edina show the most recent year of data, 2014, while the other communities show 2013 annual data.

Partners in Energy Community	Xcel Energy Fuels Served	Total Residential GWh	Residential Premises	Total Commercial – Industrial GWh	Commercial-Industrial Premises
Lake Street Corridor, Minneapolis (2013)	E	210	43,000	432	1,400
Maplewood (2013)	E, G	119	15,192	201	1,503
Red Wing (2013)	E, G	58	6,893	112	1,049
St Louis Park (2014)	E	144	22,769	333	2,156
Edina (2014)	E	201	21,277	384	2,116

**Figure 4: Partners in Energy Community Electricity Use Compared**

<sup>5</sup> A premise is a unique identifier for the location of electricity or natural gas service. In most cases, it is a facility location.

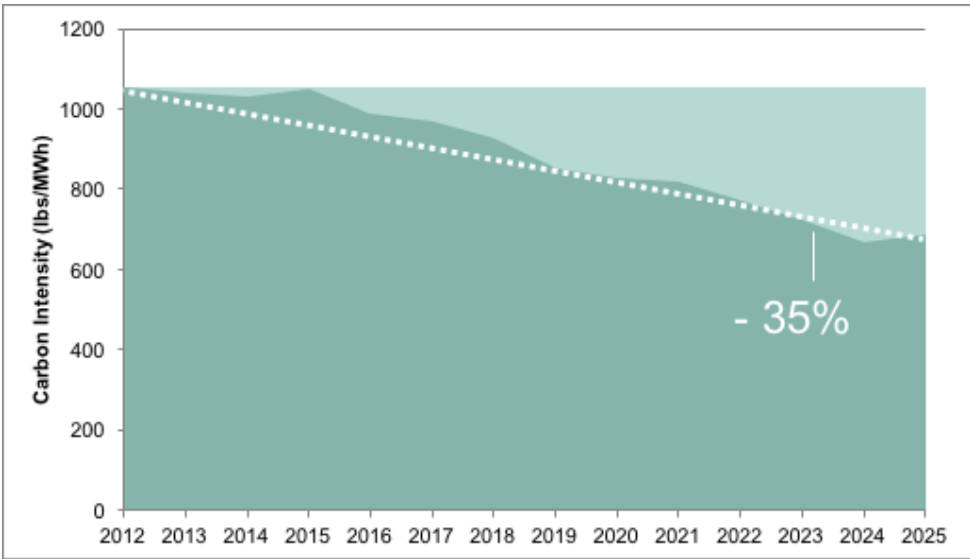
Another point of community-wide comparison is offered through the Regional Indicators Initiative<sup>6</sup> (RII), which inventories energy, potable water, travel, waste, and greenhouse gas emissions for Minnesota cities. Edina has been tracking community energy use through RII since 2007, for both natural gas and electricity. Figure 5 shows that Edina's energy use is higher than some nearby cities, including St. Louis Park, but lower than Bloomington.



**Figure 5: Regional Indicators Initiative Energy Comparison 2013 (MMBtu)**

In addition to looking at the community's energy usage in comparison to nearby cities, the team looked at projections around Xcel Energy's electricity supply. The carbon intensity of Xcel Energy's electricity supply will significantly impact greenhouse gas reductions in the electricity sector. Current unofficial projections of the electricity grid are based on Xcel Energy's filing with the Minnesota State Public Utilities Commission, dated October 2, 2015, which proposed a schedule for fuel conversion of existing coal power generation facilities. Based on this proposed plan, Xcel Energy's carbon intensity is projected to decrease 35% between 2012 and 2025. Figure 6 shows the impact of Xcel Energy's energy supply mix projections on greenhouse gas reductions in the electricity sector.

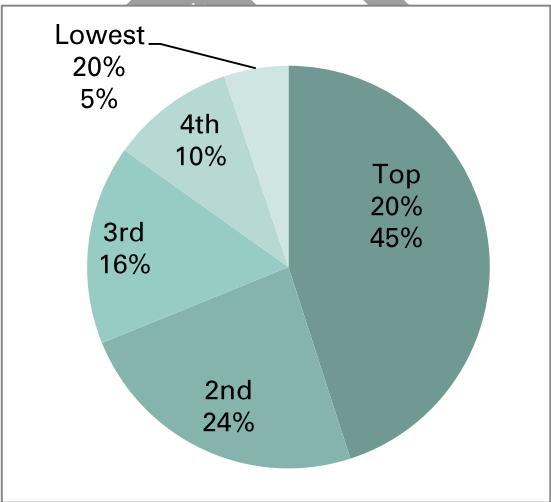
<sup>6</sup> More information on the Regional Indicators Initiative website ([Minnesota.uli.org/initiatives/environment/regional-indicators-initiative/](http://Minnesota.uli.org/initiatives/environment/regional-indicators-initiative/))



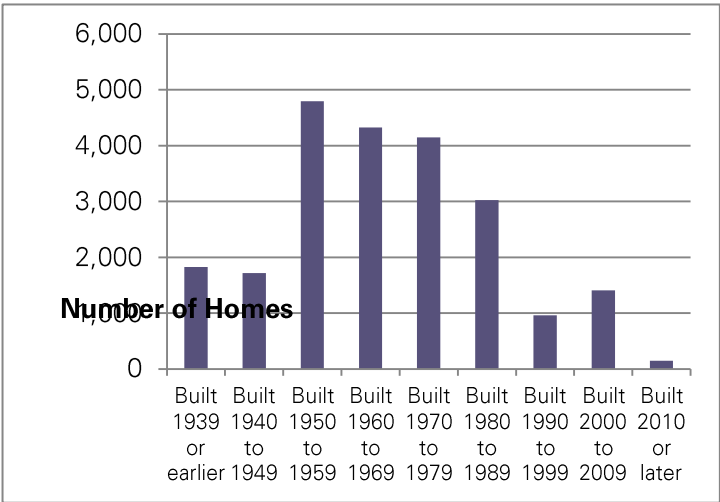
**Figure 6: Electricity Grid Projections (dark blue) based on the filing with MN PUC on October 2, 2015**

### Residential Electricity Use

Further segmentation of the residential sector shows how household use is distributed across the community. In the residential sector, the top 20% of electricity users consume 45% of Edina’s residential electricity. This data shows that higher impacts may be achieved in targeting high usage homes, and that the top 20% of households use more electricity than the bottom 60% of users combined. In targeting residential home electricity usage, age of housing stock can be a factor. Newer homes have improved building shells and more efficient appliances; however older homes may be smaller and cool during the summer in zones through window air conditioning units, rather than through a central air system. Many of Edina’s homes were built from 1950-1979.

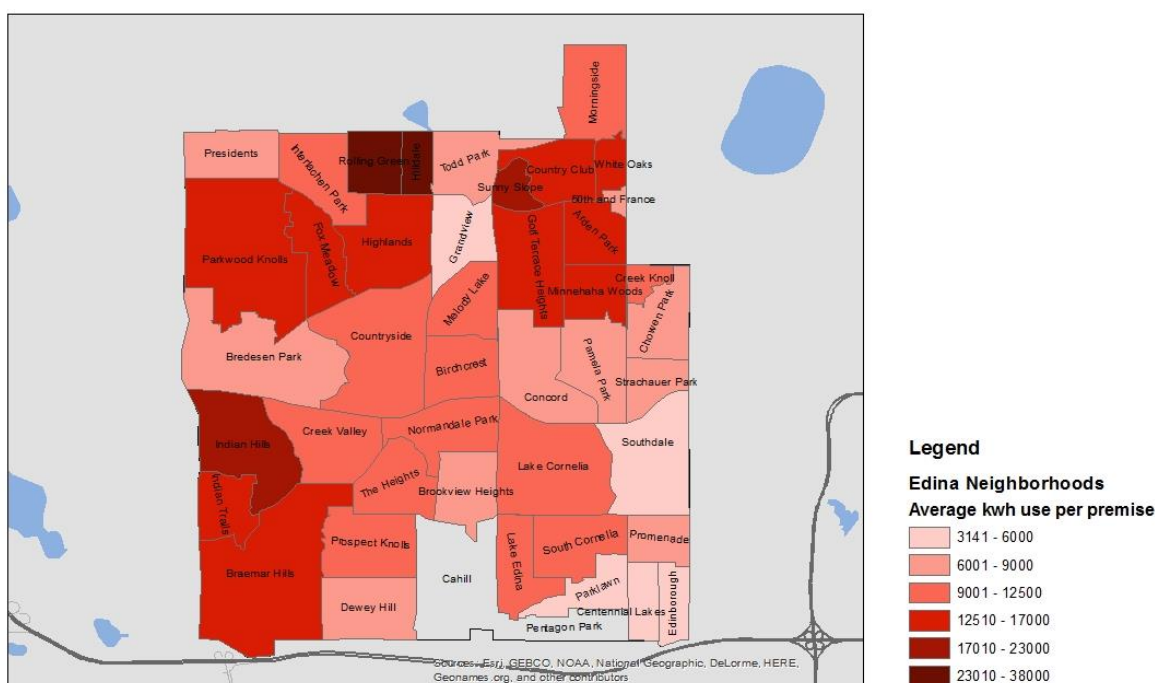


**Figure 7: Residential Electricity Use**



**Figure 8: Age of Residential Housing Stock**

In 2014, there were 21,288 residential premises in Edina, and the average residential electricity use was 9,430 kWh/year. Figure 9 shows a geographic breakdown of Edina's average residential premise electric use by neighborhood. The neighborhoods with the lowest average consumption are Cahill and Pentagon Park, and the neighborhoods with the highest average consumption were Rolling Green and Hilldale. By considering this data, the team was able to determine whether a geographically oriented strategy would be a priority.



**Figure 9: Residential Electricity Use**

Figure 10 shows the total residential use by the top 15 electricity using neighborhoods in ranked order. Parkwood Knolls had the highest energy usage in total by a significant lead, followed by Country Club, Countryside, Morningside, and Lake Cornelia. This total use by neighborhood reflects the total number of residential properties, as well as the average use by home, and differs from the average consumption per premise shown above. This information contributed to the consideration of a neighborhood-oriented or geographically oriented strategy by the Energy Action Team.

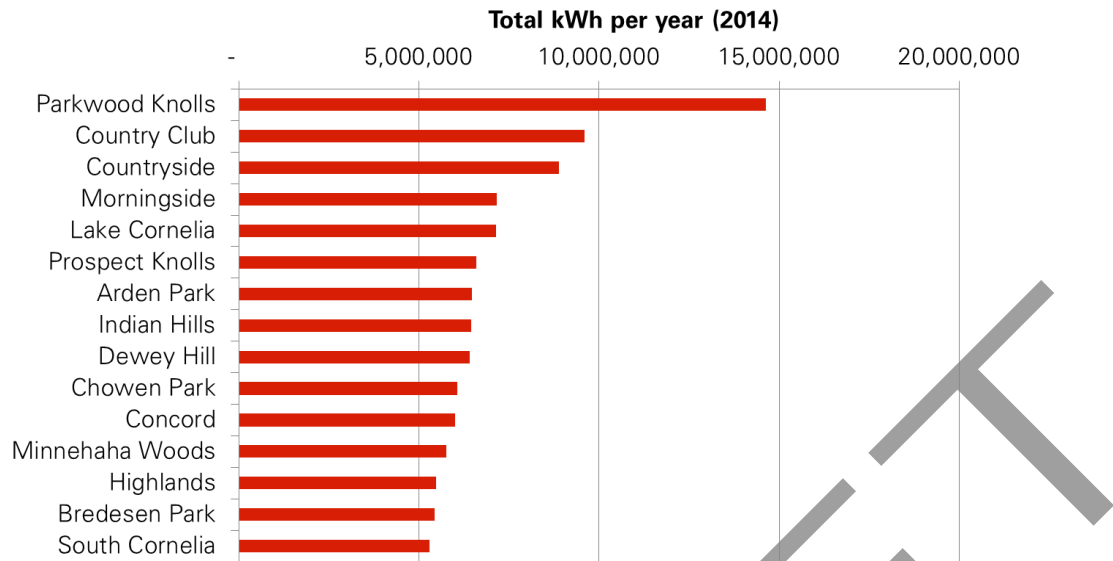


Figure 10: Top 15 Neighborhood Total kWh Usage 2014

## Residential Program Participation

Another component of the community baseline is how much residents have participated in conservation or renewable energy programs, and which programs have been most popular. Average participation by neighborhood is shown in Figure 11. Neighborhoods with the highest rates of participation were Lake Cornelia, Sunny Slope, Rolling Green, and Normandale Park, which all had program participation rates between 35% and 40%.

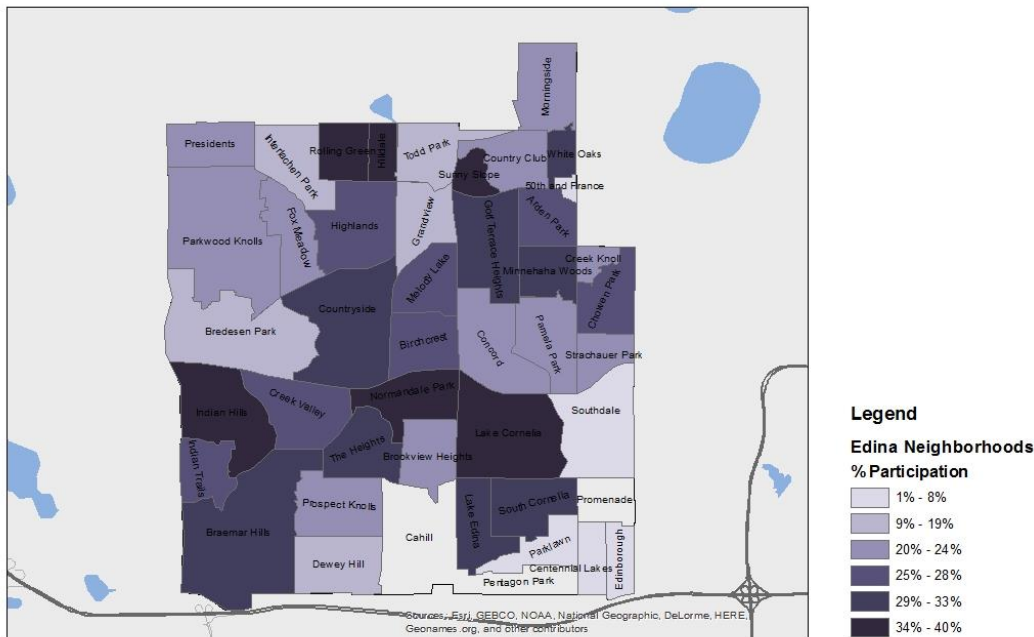
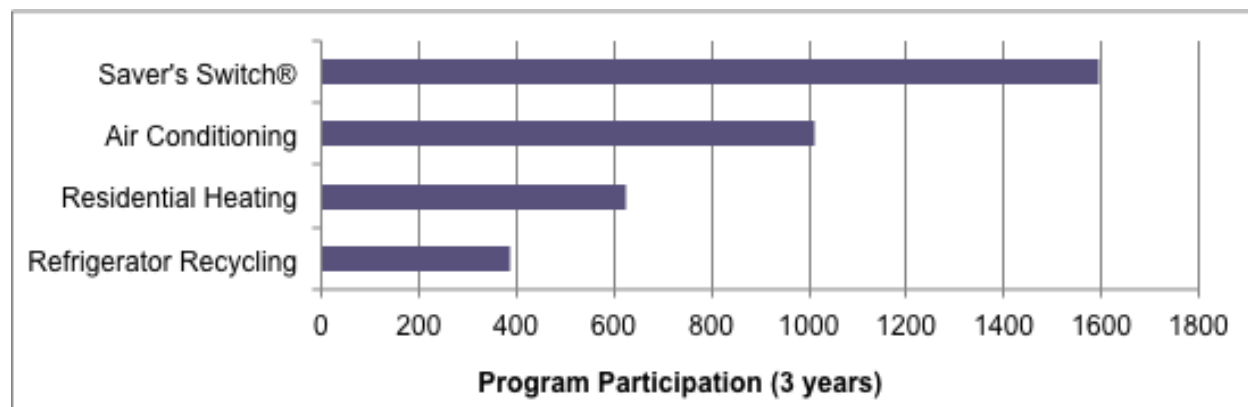


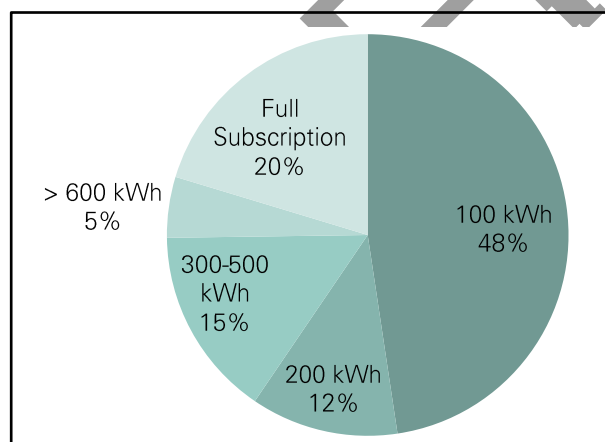
Figure 11: Residential Program Participation Benchmarked to Population

Xcel Energy's residential conservation programs with the highest customer participation over the past three years are shown below, by participation count. When one includes all residential programs (beyond these top 4), energy efficiency saved residential customers the equivalent of 0.3% of their annual electricity use.



**Figure 12: Residential Energy Efficiency Program Participation**

WindsorSource® is a renewable energy program offered by Xcel Energy, where residents and businesses voluntarily pay a premium to subscribe to wind power to cover their electric use. These subscriptions count above and beyond any planned wind energy projects.<sup>7</sup> Subscribers can choose to subscribe in blocks of 100 kWh, or cover their entire household usage. In 2014, the average cost for one 100 kWh block was an additional \$0.68 over the retail rate. Six-hundred and seventy five households and eight businesses currently participate in WindsorSource®. Almost half of residential WindsorSource® subscribers subscribe to just one 100 kWh block.



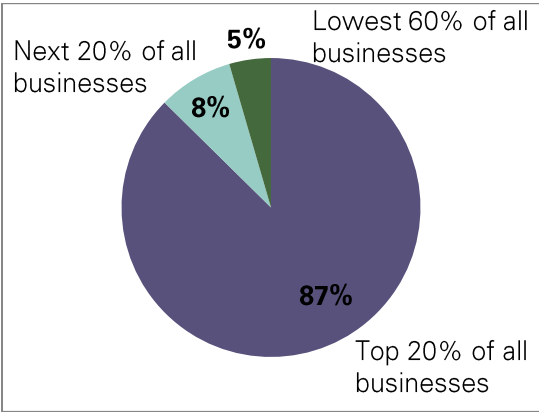
**Figure 13: Residential WindsorSource® Subscription Amount**

<sup>7</sup> WindsorSource® is therefore in addition to any projects that being developed to meet Minnesota's renewable portfolio standard. Xcel Energy will retire the Renewable Energy Credits (RECs) for the WindsorSource® customer.

In addition, eight households participated in Xcel Energy’s Solar\*Rewards programs, which offers incentives and rebates for installation of photovoltaic (PV) solar panels. Detailed information on program participation and associated savings is included in Appendix 10, and specific program descriptions can be found in Appendix 9.

**Business Electricity Use**

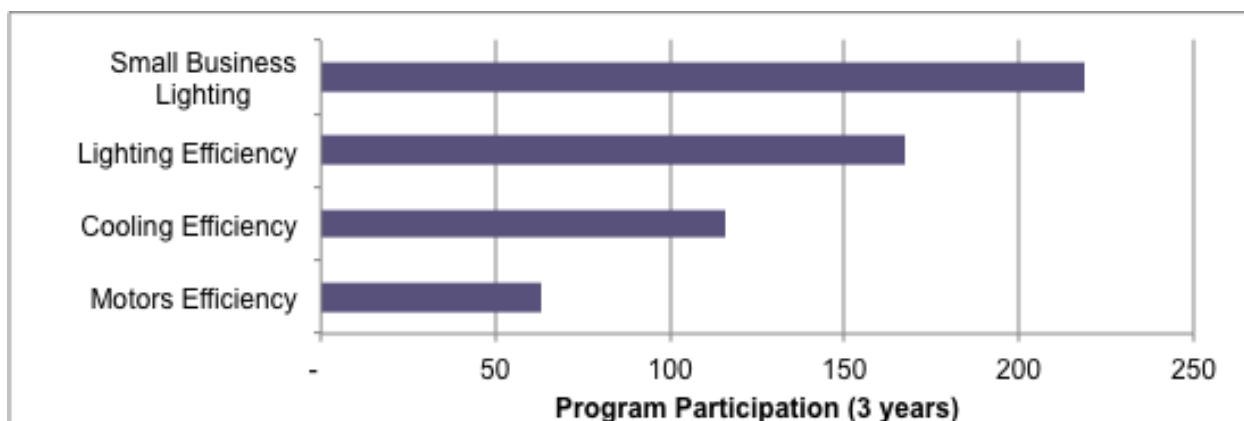
In the business sector, the top 20% of commercial energy users consume 87% of Edina’s commercial electricity use, shown in Figure 14. The number of businesses included in the top 20% of users is 392. Factors that may contribute to the highest 20% of users consuming a disproportionate amount of electricity could include business sector and business size. In general, the sectors with the highest electricity consumption are: food service, inpatient health care, food sales, enclosed and strip malls, and lodging.<sup>8</sup> This information highlights the potential of targeting the top 20% of business users over small businesses.



**Figure 14: Business Electricity Use**

The commercial efficiency programs with the highest customer participation over the past three years are shown in Figure 15. Participation in all commercial efficiency programs combined saves 1.8% of electric use by Edina businesses annually.

<sup>8</sup> From the U.S. Energy Information Administration Commercial Buildings Energy Consumption Survey



**Figure 15: Business Program Participation**

In the past three years, 11 businesses participated in Solar\*Rewards programs. Detailed information on business program participation is included in Appendix 10. While many of the programs for the largest/industrial customers have the highest average savings per participant, the programs that had the most participation were Small Business Lighting, Lighting Efficiency, Cooling Efficiency, and Motor Efficiency.

### City Electricity Use and Data

Together, municipal facilities and school district facilities contribute 5% of community wide electricity use. City facilities consumed 17.9 million kWh in 2014, while School District facilities consumed 13.8 million kWh. Both the City of Edina and Edina Public School District signed data privacy waivers enabling public sharing of facilities electricity data for this planning project.

Energy use for the 20 highest using municipal facilities has been tracked through the B3 benchmarking program as part of Edina's participation in GreenStep Cities. The Partners in Energy planning process allowed for a synthesis with Xcel Energy electricity data to update existing data and expand tracking to all municipal facilities. Electricity usage for the City's top 20 facilities for the year ending in October 2015 is shown in Figure 16.

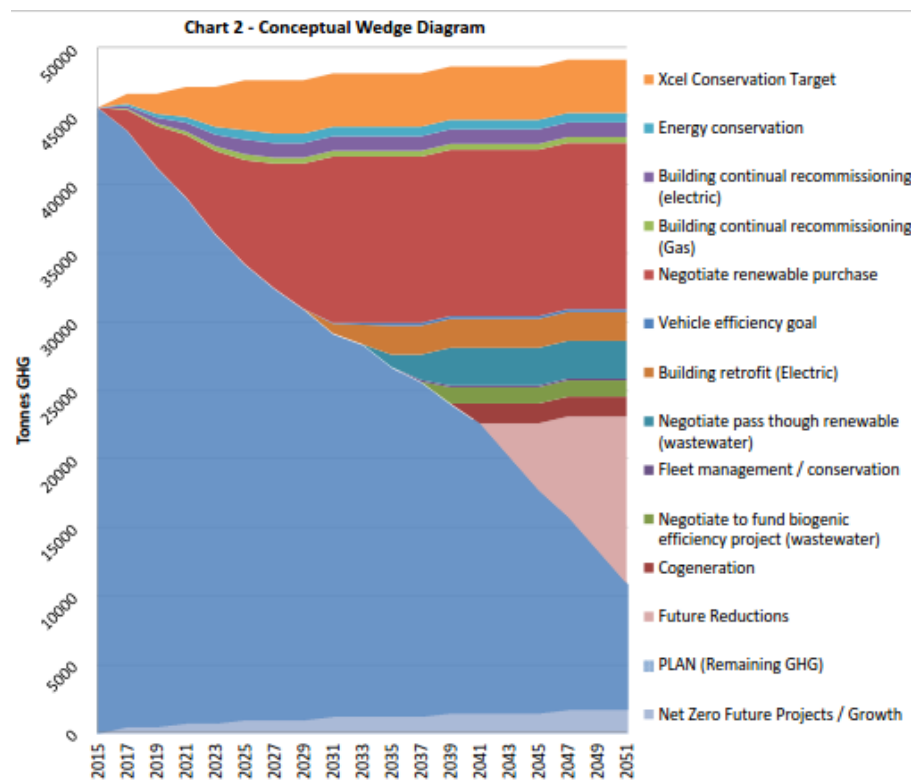


Site Name	Electric kBtu/SF/Yr
Fred Richards Golf Course Maintenance	5.64
City Hall	69.43
Centennial Lakes Maintenance	6.77
Art Center	64.07
Liquor Store 50th St	91.17
Edinborough Park	86.78
Public Works	22.59
Centennial Lakes Hughes Pavilion	82.50
Fire Station No. 1 Tracy Ave	46.21
Liquor Store York Ave	84.66
Liquor Store Vernon Ave	76.14
Fire Station No. 2 York Ave	39.12
Arneson Acres Museum	19.86
South Metro Public Safety Training Facility	22.00
Arneson Acres Greenhouse	7.07
Braemar Golf Course Clubhouse	60.52
Senior Center	37.58
Braemar Golf Dome	14.70
Fred Richards Golf Course Clubhouse	3.73
Braemar Arena	66.00

**Figure 16: Top 20 City Facilities Electricity Usage**

In addition, Ross Bintner, Environmental Engineer, prepared a series of data to inform strategies for reducing City greenhouse gas emissions. The results estimate how electricity use in municipal facilities compares to other sources of greenhouse gas emissions, and against budget expenditures, though the results were issued with a data quality caveat.<sup>9</sup> A wedge diagram showing the impact of proposed strategies on City greenhouse gas emissions is shown in Figure 17. The complete assessment can be found as Appendix 4. This information informed decisions about how to prioritize strategies targeting municipal greenhouse gas emissions. Mr. Bintner used a 2015 budget spreadsheet provided by the City finance department and analyzed it to group expenses and convert them to total dollar values, which were converted into units of material or energy, or directly translated to GHG using sources including the International Local Government Greenhouse Gas Emissions Analysis Protocol.

<sup>9</sup> Mr. Bintner explained to the planning team: "The "concept" level of detail is important to note, as I have not been trained to perform GHG analysis. In performing this analysis I worked with planning team member Kyle Sawyer, and Michael Orange with Orange Environmental to translate 2015 City of Edina expenses data into approximate GHG emissions. Mr. Orange has conducted GHG assessments and politely emphasizes my lack of training when asked! In addition to GHG, I also attempted to summarize other notable environmental footprint not directly related to energy, such as water and land to demonstrate the concept of tradeoffs in City operations."



**Figure 17: Conceptual Diagram Showing Impact of Proposed Actions Prepared by Ross Bintner**

## School District Electricity Use and Sustainability

The Edina Public School District has completed a variety of sustainable and energy saving projects. Several strategies are incorporated into each school's mechanical design, and Xcel Energy's Energy Design Assistance program has been utilized by the District to develop utility rebate incentives. Specifics on the sustainable strategies designed for the Edina Public Schools Next Generation Facilities Plan currently in progress with Wold Architects and Engineers and Kraus-Anderson Construction may be found in Appendix 5.

The District-wide Go Green committee has implemented several initiatives. As a group, the committee is finding ways to motivate students and help them be aware of their carbon footprint. The committee meets once a month to discuss ways to help the schools and leverage parent and staff volunteers to support sustainability, and reports to District staff on a monthly basis. The committee actively supports initiatives coming out of high school and middle school green groups. The committee received a grant from Hennepin County to purchase and implement waste sorting stations at all elementary schools and to hire staff to monitor lunchroom waste sorting. Through this, staff and students are being educated to sort waste responsibly.

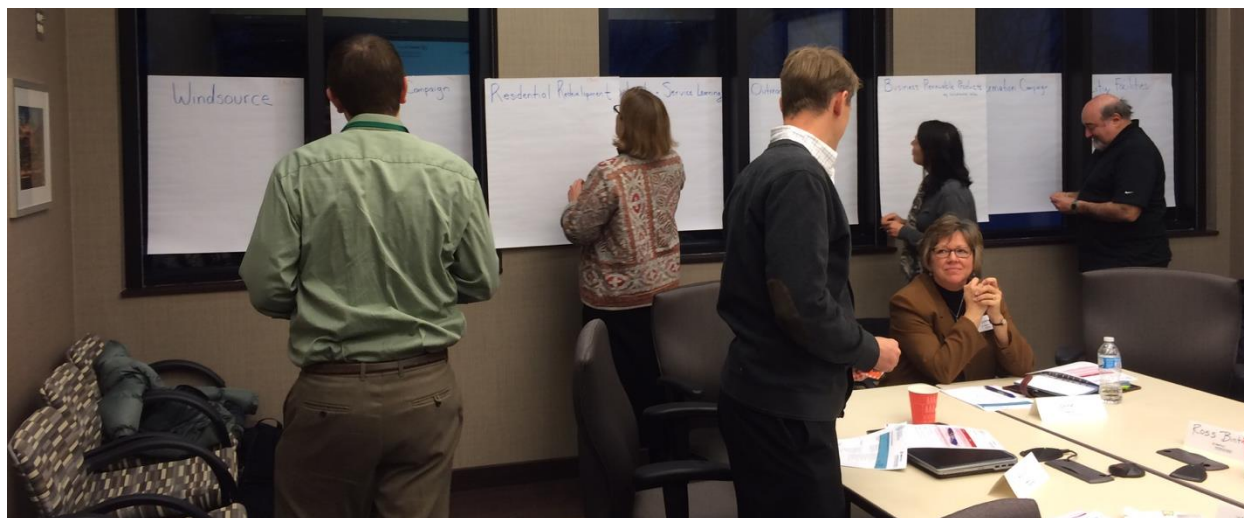
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established greenhouse gas emissions reduction goal, established by the City of Edina and the Energy and Environment Commission. The targeted greenhouse gas emissions reduction percentage has been updated by the Energy Action Team to reflect the State of Minnesota energy conservation goals. The results of that effort are the vision statement below.

Edina's residents, schools, businesses, and government will successfully reduce the community's greenhouse gas emissions by 30% by the year 2025, through strategies and actions that are sustainable, practical, and measurable.

This vision statement guided the Energy Action Team in the development of the focus areas, strategies and short term goals. Focus areas are Edina’s key priorities under which goals and strategies of the plan are organized. To determine which focus areas would best fit the Edina community, the planning team reviewed opportunities and data within each major sector: municipal, residential, and commercial. Details on the opportunities the planning team explored are included as Appendix 6.

Five focus areas originally emerged out of the planning process: Schools and Service Learning, City Facilities, a Residential Information Campaign, Residential Windsource®, and Business Energy Efficiency. These focus areas were selected by the Energy Action Team based on areas that supported Edina's energy vision, that team members were personally excited to work on, and had strong potential for short term impact.



### The Energy Action Team voting on focus areas in Workshop 3

The Schools and Service Learning focus area was selected because the schools are a valued asset in Edina, and the group felt it was important to start energy education at a young age. As the group explored options, they were sensitive to the opportunity to partner with the school district, and didn't want to overreach in terms of asking for specific actions. Between the fourth and fifth workshop, the group decided to shift away from Schools and Service learning as a focus area, but rather to use Partners in Energy as an opportunity to connect with the school district and invite them to partner on energy initiatives. The team wants to recognize the work the school district is already doing and planning to do to reduce energy usage and engage students in sustainability education. Detailed information on energy projects within the schools can be found in Appendix 5.

Renewable energy subscriptions emerged as the group reviewed available programs, and the group is interested in leveraging the low consumer price point, as well as direct impact on reduction of GHG. The group initially targeted Residential Windsource® as a focus area, and decided in the fifth workshop to combine the strategies and messaging in this focus area with the Residential Information Campaign. The work the group did on Residential Windsource® is reflected in the goals, actions, and strategies of the Residential Information Campaign.

Further information on the three focus areas for near-term action follows: Municipal Facilities, a Residential Information Campaign, and increasing Business Energy Efficiency and Renewables.

### Focus Area: Municipal Facilities

This focus area is a continued commitment to demonstrating leadership in City operations when asking businesses and residents to complete energy conservation and renewable energy actions. A series of building studies are currently in progress through CR-BPS, and the results of those studies will significantly impact how this focus area moves forward. The City's Capital Improvement Plan is also currently in progress for the next two years, which will include budgets for capital improvement projects, including for City facilities.

Beyond the scope of this plan, other strategies will support other sources of City greenhouse gas emissions, including strategies addressing transportation and natural gas use. City facilities and operations consume about 6% of total community electricity use. The greenhouse gas reduction strategies will be embedded in City processes and plans, and not treated as stand-alone efforts.

#### **Goals:**

- **Long term: Reduce the City's greenhouse gas emissions 30% by 2025 from a 2012 baseline.**
- **Short term: Within the next 18 months lower the City's electricity greenhouse gas emissions by 7.5%**

### Focus Area: Residential Information Campaign



The Energy Action Team prioritized reaching out to Edina residents because this strategy would be impactful and achievable in the short term. The planning group also wanted to leverage the neighborhood residential energy data shared during planning, and the experience planning team members had sharing their own energy use, to motivate other residents. The Edina community is strong, with lots of involved families and a general sense of community pride. The team feels that residents don't realize the impact they can have by doing some fundamental and easy things in their homes. This focus area leverages the sophisticated communications channels the City of Edina already has in place, as well as the peer-to-peer network of the Energy and Environment Commission.

Residential energy use composes 34% of Edina's overall electricity use. The goals outlined below would result in 175 tonnes of reduced carbon emissions by 2025 through conservation and 2,665 tonnes of reduced carbon emissions by 2025 through the utilization of renewable energy.



**Goals:**

- **750 homes take energy savings actions each year.**
- **Double the number of subscribers to Windsource®, and double the average subscription amount within 18 months.**

Currently, the average number of residential rebates filed annually is 715. Given the priority actions identified in the strategies, described below, achieving this goal of 750 additional actions annually will more than double the electricity savings from conservation programs, saving 562,000 kWh per year. There was an average of 675 residential subscribers to Windsource in 2015, with an average subscription amount of 4,200 kWh annually, or 350 kWh per month.

The Energy Action Team would like to leverage learnings from similar campaigns and best practices. For outreach, there are several important factors:

- The audience the message is trying to reach, and their experiences
- The clear ask that the recipient of the message should take
- The reason the recipient of the message will care
- The channels which are best suited to reaching the target audience

A list of relevant case studies is located in Appendix 11. As the team works to implement this plan, they will review further best actions and case studies.

**Focus Area: Business Energy**

Businesses are responsible for 66% of Edina's electricity usage. The top 20% of business comprise 87% of total business energy usage. Given this data, the Energy Action Team felt it was important to target such a large portion of overall usage. A key idea behind this focus area is to leverage existing resources to promote energy savings actions and to recognize businesses in the community that are leaders in energy efficiency and renewable energy. Knowing that businesses vary greatly in how they use energy, the group has identified a need for customized messaging to reach businesses in the most impactful way. In order for this focus area to be successful, the messaging will need to convey the business case for greenhouse gas reduction.

**Goals:**

- **Reduce and/or off-set through renewable energy 2% of electricity usage annually.**

Over the past three years, businesses have saved 1.8% of their energy usage on an annual basis. This number is averaged between the past three years, but overall conservation in the business sector has been trending down. The 2% goal is aggressive, and will compound year over year to meaningfully impact progress toward the City's 30% greenhouse gas reduction

goal, in combination with the other strategies and the decarbonization of the electricity grid. This focus area will leverage the largest businesses to act as leaders in the energy space by taking actions and by recognizing them.

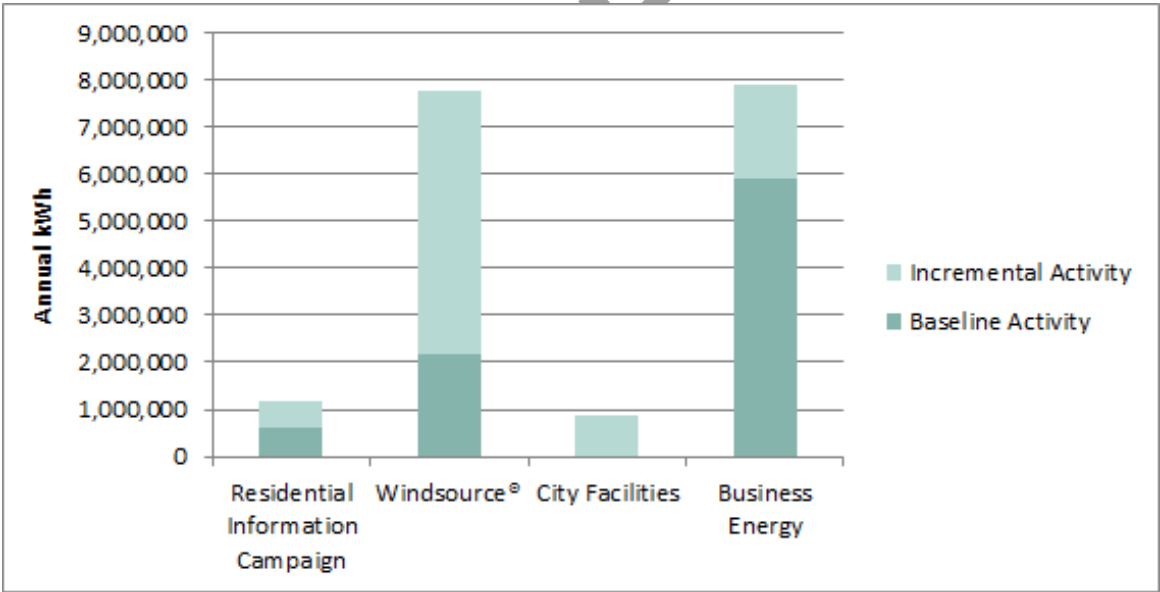
Additionally, education sector facilities are included in this business oriented focus area. The team will continue to communicate with the school facilities staff to track energy efficiency and renewable energy projects, highlighting them as case studies when appropriate.

The Energy Action Team would like to leverage learnings from similar campaigns and best practices. The same four key components that are important for residential outreach are important for business outreach. The group would like to highlight a call for leadership and energy efficiency actions that will save businesses money in the long term. Additionally, the group will work to build resident support of businesses that demonstrate a commitment to energy efficiency and renewable energy.

A list of relevant case studies is located in Appendix 11. As the team works to implement this plan, they will review further best actions and case studies.

Impact of Focus Area Goals on kWh

The following graph shows the impact of each focus area’s goals in comparison to baseline energy efficiency and renewable subscription activity.



Impact of Energy Action Plan Goals on Carbon Reduction

The following illustration shows how the Partners in Energy goals and the projected carbon-intensity of the regional electricity grid will help achieve Edina’s community wide greenhouse gas targets. Carbon intensity trends used are based on the most recent projections of Xcel

Energy's upper Midwest electricity grid, as shared above.<sup>10</sup> Partners in Energy strategies are focused on goals for the next 18 months, and this illustration projects continued activity to 2025, assuming a continuation of activity at an intensity of 66%. Additional assumptions are detailed below. The data in the graph below differs from the data provided in the Regional Indicators Initiative in that it includes gas, electricity, and transportation, and not "waste" and "others" categories.<sup>11</sup>

- Electricity use from 2009-2011 is taken from the Regional Indicators Initiative; natural gas and transportation GHGs from 2009 – 2013 are taken from the Regional Indicators Initiative.
- Electricity use from 2012-2014 is calculated using Xcel Energy community wide electricity data from Partners in Energy.
- The business as usual (BAU) assumptions for electricity assume that annual baseline growth occurs at 1.5% annually in the residential and commercial sectors, and that in addition, baseline energy savings from ongoing conservation programs will occur, matching the average rate from 2012-2014. These two assumptions result in a net zero change to baseline additions.
- Natural gas and transportation is projected flat from 2013 levels for illustrative purposes, although there are likely planned reductions in those sectors.

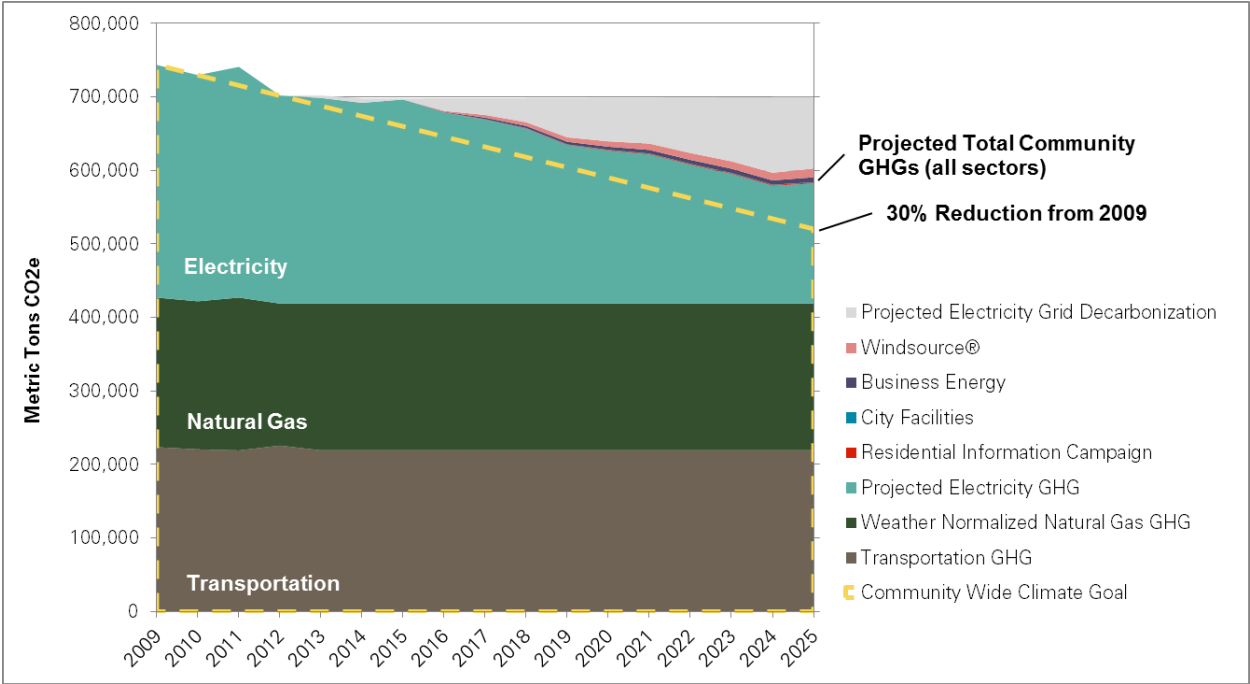


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<sup>10</sup> These projections are taken from Xcel Energy's Integrated Resource Plan dated October 2, 2015.

<sup>11</sup> In the Regional Indicators Initiative data, these sections should make up about 747,000 mtCO<sub>2</sub>e.





## How Are We Going To Get There? – Strategies

This section outlines in more detail the specific strategies that will meet the goals of each focus area. The Energy Action Team developed these strategies by examining the state of current energy use and program activity, brainstorming and prioritizing possible actions that draw on core community strengths, and assessing the likelihood that strategies will meet identified goals. The Energy Action Team spent several sessions revising strategies with technical input from the Xcel Energy team.

Each focus area identified has its own action plan that identifies responsible parties, outlines implementation steps and a timeline, identifies partners or resources, and assigns metrics for tracking progress. This plan focuses on actions over the next 18 months. More detailed workplans will be developed for each focus area by the implementation workgroups.

Members of the Energy Action Team who developed this plan, as well as other community members, have the opportunity to be involved with implementation through joining Energy and Environment Commission work groups dedicated to each focus area. A quarterly newsletter with update on progress and volunteer opportunities will be distributed quarterly.

### Focus Area: Municipal Facilities

Two key strategies support the Municipal Facilities focus area, which will be championed by the new Conservation and Sustainability (CAS) Staff member. The ongoing actions for this focus area will be heavily dependent on the outcomes from the municipal building study recommendations. This section outlines actions that will take place in the first few months of implementation with the expectation that ongoing actions will be determined by the CAS Staff member and City staff.

#### MUNICIPAL FACILITIES OVERVIEW

<b>Goals</b>	<ul style="list-style-type: none"> <li>Short term: Within the next 18 months lower the City's electricity greenhouse gas emissions by 7.5%.</li> <li>Long term: Reduce the City's greenhouse gas emissions by 30% from a 2012 baseline by 2025.</li> </ul>
<b>Strategy:</b> Implement recommended energy use reduction projects from building study currently being conducted by CR-BPS	<b>Actions:</b> <ul style="list-style-type: none"> <li>Prioritize recommendations based on greenhouse gas reduction and cost analysis</li> <li>Meet with Xcel Energy to review building study reports and evaluate opportunities for rebates and conservation programs</li> <li>Support implementation of projects</li> <li>Review supplemental funding options for project implementation</li> <li>Track electricity and greenhouse gas impact of projects</li> <li>Communicate greenhouse gas impacts to broader community through City communications channels</li> <li>Evaluate use of projects as case studies for business programs</li> </ul>

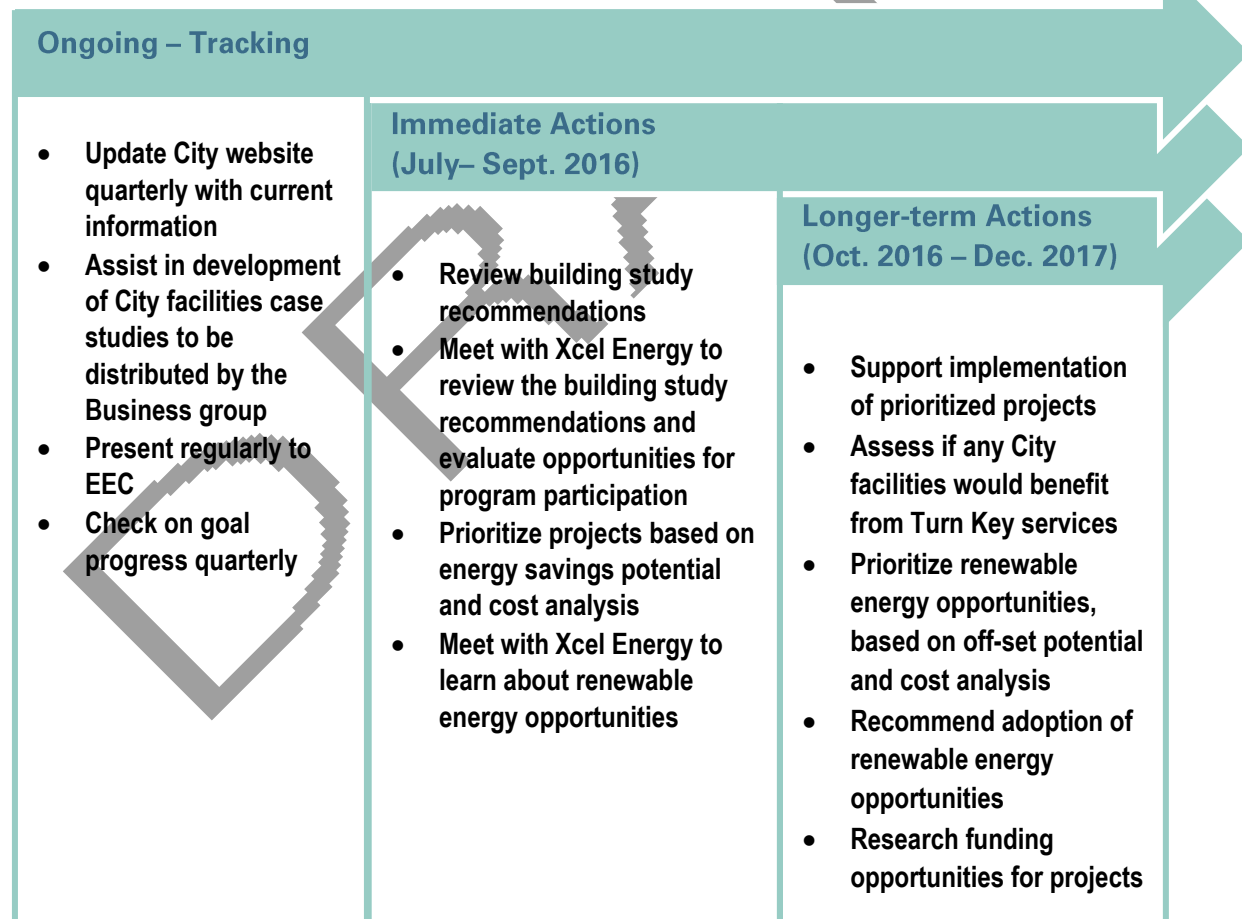
<b>Leadership:</b> CAS Support Staff	<ul style="list-style-type: none"> <li>• Integrate greenhouse gas reduction principles on maintenance program for existing facilities</li> <li>• Incorporate greenhouse gas considerations on capital purchases</li> <li>• Look into research opportunities with education organizations</li> <li>• Assist with development of business case for GHG reduction options</li> <li>• Review current City policy and propose changes to support energy use and greenhouse gas reductions</li> </ul>
<b>Strategy:</b> Negotiate renewable purchase for municipal electricity  <b>Leadership:</b> CAS Support Staff	<b>Actions:</b> <ul style="list-style-type: none"> <li>• Coordinate with Xcel Energy to evaluate opportunities, including Windsource® and Renewable Connect</li> <li>• Continue to evaluate solar</li> <li>• Research supplemental funding opportunities</li> <li>• Draft three possible levels of participation</li> <li>• Present options to EEC and City Council</li> <li>• Communicate impact of any renewable purchase to broader community through City communications channels</li> </ul>
<b>Measuring Success</b>	Measure progress every six months using electricity data provided by Xcel Energy OR use B3 data. Quarterly reports to EEC and City Council.
<b>TEAM:</b>	
<b>Community Lead</b>	<b>Lead:</b> CAS Staff <b>Team:</b> Ross Bintner, Environmental Engineer, Tim Barnes, Facilities Manager, Jennifer Bennerotte, City Communications, EEC Energy Work Group
<b>Community Partners</b>	EEC, City Council, City Communications Staff
<b>Outreach and Communication Channels</b>	<ul style="list-style-type: none"> <li>• Regular update presentations at EEC</li> <li>• Potential project case studies distributed and developed by the Business Focus Area</li> <li>• Communicate project progress to the community through on-site signage and City website</li> </ul>
<b>Xcel Energy Support</b>	Provide information on relevant rebates and programs, work with City to evaluate renewable energy opportunities, provide electricity data to track progress every six months.

## KEY ROLES FOR MUNICIPAL FOCUS AREA

<b>Implement recommended projects from building study</b>	<b>EEC Working Group:</b> Coordinate with City Staff for updates, provide feedback, coordinate messaging of case studies with other EEC work groups <b>City Staff:</b> Review building study report and coordinate with Facilities Manager and Xcel Energy to prioritize projects for implementation, research outside funding opportunities and pursue them, ongoing role based on results of building study, research opportunities to partner with education organizations, help develop the business case for GHG reduction options
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	<b>Xcel Energy:</b> Meet with City Staff to offer perspective on prioritizing projects based on the building study report and connect with relevant program opportunities
<b>Negotiate renewable purchase for municipal electricity</b>	<p><b>EEC Working Group:</b> Advocate for renewable purchase, offer feedback, coordinate messaging of case studies with other EEC work groups</p> <p><b>City Staff:</b> Assess renewable purchase options, draft proposals to the EEC and City Council, present opportunities to City Council and EEC, follow through with implementation of selected option(s)</p> <p><b>Xcel Energy:</b> Provide renewable energy opportunity expertise, tailored to Edina municipal facilities, meet with City staff and others as appropriate to discuss options, provide supporting data as appropriate</p>
<b>Ongoing management Tracking and reporting</b>	<p><b>EEC Working Group:</b> Review updates and share with the broader EEC, advise on tracking metrics and progress</p> <p><b>City Staff:</b> Maintain library of tracking data, assess progress</p> <p><b>Xcel Energy:</b> Provide quarterly data briefings based on identified tracking metrics</p>

### Municipal Facilities Focus Area Timeline



## Focus Area: Residential Information Campaign

Four key strategies support the Residential Information Campaign, which will be championed by the Energy and Environment Commission energy work group, City communications staff, the CAS staff position, City leadership, and community leaders. Mid-way through implementation, it is anticipated that the success of the actions outlined below will be assessed, and continuing activities will be driven by the results of that assessment, to ensure the campaign is as successful as possible. A detailed implementation timeline is included as Appendix 7.

### RESIDENTIAL INFORMATION CAMPAIGN OVERVIEW

<b>Goals</b>	<ul style="list-style-type: none"> <li>750 homes take energy-savings actions each year</li> <li>Double the number of subscribers to Windsource® and double the average amount subscribed within 18 months. (675 new Windsource® subscribers, average subscription of 534 kWh per month)</li> </ul>
<b>Key Messages</b>	<ul style="list-style-type: none"> <li>Join your community to combat climate change.</li> <li>Don't be an energy hog!</li> <li>Save money on your energy bill.</li> <li>Try the latest technologies in your home.</li> </ul>
<b>Targeted Actions</b>	<ul style="list-style-type: none"> <li>Install and program smart thermostats</li> <li>Get a Home Energy Squad® visit</li> <li>Sign up for "My Account" online and look under "My Energy"</li> <li>Subscribe to Windsource®</li> </ul>
<b>Strategy:</b> Drive traffic to a City operated web resource through City communications channels  <b>Leadership:</b> City communications staff	<b>Actions:</b> <ul style="list-style-type: none"> <li>Drive residents to a city-hosted website, where they will have access to actionable resources, a gauge that shows community progress, a calendar of activities and events, and testimonials</li> <li>Create paced content for: the Sun Current, City Website, and City social media</li> <li>Consider secondary channels, such as water bill inserts</li> <li>Evaluate outside funding or donations from local businesses to provide incentives for residents to complete actions</li> <li>Evaluate effectiveness of messaging mid-way through the campaign, and add additional actions/refine messaging if goals aren't being hit</li> </ul>
<b>Strategy:</b> Foster neighborhood-based outreach and leadership  <b>Leadership:</b> EEC Energy Work Group, Neighborhood leaders	<b>Actions:</b> <ul style="list-style-type: none"> <li>Develop EEC members as ambassadors to their neighborhoods</li> <li>Identify additional neighborhood advocates passionate about energy</li> <li>Provide tips and tools for community leaders to post to NextDoor and promote energy-savings actions at community events, such as block parties</li> <li>Solicit 'best practice' sharing from community members on their experience and what works with neighbors in semi-annual online or in-person forums.</li> <li>Increase EEC budget to train leaders and volunteers</li> <li>Increase environmental forum frequency to twice each year</li> </ul>

<b>Strategy:</b> Leverage outreach events for Windsource® sign-ups  <b>Leadership:</b> EEC Energy Work Group	<b>Actions:</b> <ul style="list-style-type: none"> <li>• Develop a calendar of events (e.g. farmer's markets, Edina art festival), and prioritize based on target participants</li> <li>• Test on-the-spot sign-up functionality for Windsource®</li> <li>• Identify volunteer groups (i.e. Edina Community Foundation, student groups) and assess possible incentives for volunteer participation</li> <li>• Develop materials to train volunteers; coordinate with City volunteer coordination staff</li> </ul>
<b>Strategy:</b> Assess policy options to support efficiency for Edina residents  <b>Leadership:</b> Small group composed of City staff and EEC work group	<b>Actions:</b> <ul style="list-style-type: none"> <li>• Recommend ongoing City subsidization of Home Energy Squad visits for low income and other households each year and an increase from the previous \$10,000 subsidy for 200 visits</li> <li>• Assist with establishing best practices and policies for energy efficiency and conservation for City of Edina residents</li> <li>• Develop a short term and long term list of potential policies</li> </ul>
<b>Measuring Success</b>	Website click rates and in-person signups. Track program participation through Xcel Energy data. Have regular reports to the EEC and City Council. Potentially leverage Edina's bi-annual quality of life survey for tracking. Quarterly reports to EEC and City Council.
<b>Interim Goals</b>	
<b>TEAM</b>	
<b>Community Lead(s)</b>	<b>Lead:</b> EEC Energy Work Group, Conservation and Sustainability staff, : City communications staff, City leadership, community leaders <b>Team:</b> City Council member to champion, potential for students and schools to partner
<b>Community Partners</b>	City communications staff, neighborhood organizations, outreach work group of EEC, others who could distribute or display content...
<b>Outreach and Communication Channels</b>	Highlight specific messages as detailed above.  Channels: Use Edina publications (Edina Sun Current, City website, City videos), Nextdoor, ask neighborhood associations to distribute content, leverage in-person events
<b>Xcel Energy Support</b>	Marketing material development support, program information, goal tracking, email blasts, etc.

## KEY ROLES FOR RESIDENTIAL INFORMATION CAMPAIGN

### Drive traffic to a City operated web resource through City communications channels

**EEC Working Group:** Provide feedback on messaging for website and publication pieces, provide “feature” content leads for publications  
**City Staff:** Program and maintain website, refine messaging and layout for website, implement distribution of messaging through City channels, ensuring a coordinated ask for residents and regularly timed outreach, leverage highest performing channels, research tools residents can use to monitor and reduce energy consumption to share on the website  
**Xcel Energy:** Provide technical content and advise on website messaging as desired, provide community-specific data, provide best practice expertise in reaching residential energy users, help to plan outreach schedule, review/format any marketing materials or messages, contribute best practice expertise on community outreach

### Foster neighborhood-based outreach and leadership

**EEC Working Group:** Ask EEC members to be pilot leaders within their communities, identify and contact other community leaders  
**City Staff:** Act as a point of contact for interested leaders, distribute materials as appropriate, City leadership to take message to gatherings and invite audiences to join the effort, arrange for a public gather to exchange ideas on GHG reduction  
**Xcel Energy:** Provide best practice expertise in community based social marketing, format/review any marketing materials or tools, provide neighborhood-specific data and mapping as appropriate

### Leverage outreach events for Windsource® sign-ups

**EEC Working Group:** Identify and recruit volunteers, track ongoing coordination, help to develop training materials, maintain community events calendar and set up tabling opportunities  
**City Staff:** Support maintenance of events calendar and volunteer coordination for tabling, host tabling supplies, act as point of contact for interested volunteers  
**Xcel Energy:** Help refine messaging to volunteers and residents who visit tables, format/review any marketing materials or tools, contribute best practice expertise on tabling at events

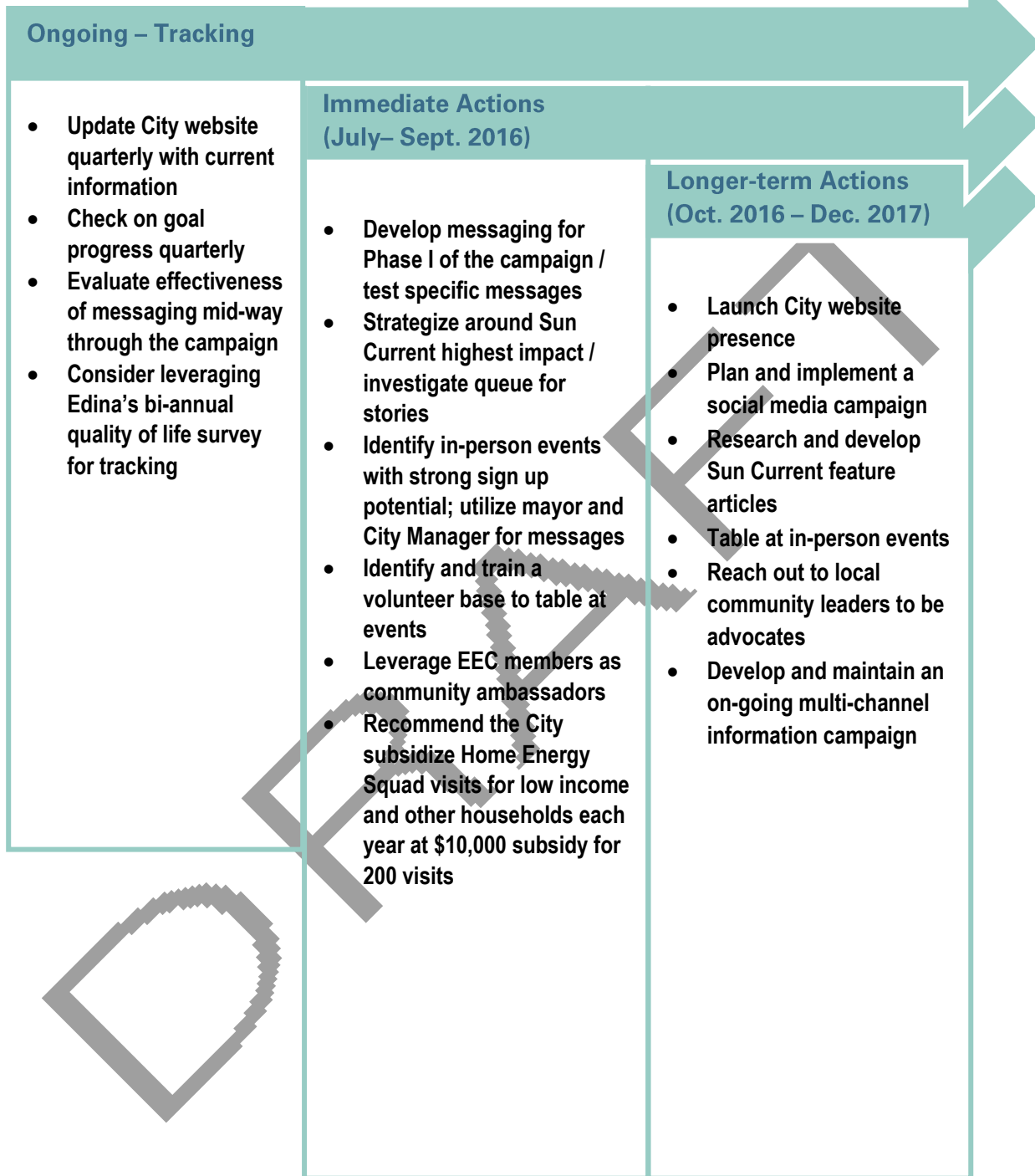
### Assess policy options to support efficiency for Edina residents

**EEC Working Group:** Share updates with the broader EEC, coordinate with City staff, advocate for policy options  
**City Staff:** Coordinate with EEC and Xcel Energy, provide analysis of policy options

### Ongoing Support

**Xcel Energy:** Provide quarterly updates based on identified tracking metrics, provide overall project tracking and management, including facilitated meetings and follow up, research case studies for policy options as needed

## Residential Information Campaign Focus Area Timeline:





## Focus Area: Business Energy

Three key strategies support the Business Energy focus area, which will be championed by the new Conservation and Sustainability (CAS) Staff member, City leadership, the EEC energy work group, and will leverage partnerships with local business associations. A detailed timeline is included as Appendix 7.

### BUSINESS ENERGY OVERVIEW:

<b>Goals</b>	<p>Reduce and/or off-set through renewable energy 2% of electricity usage annually.</p> <p>Short-term: Engage 100 of the top 400 business energy users Long-term: Engage all 400 of the top 400 business energy users</p>
<p><b>Strategy:</b> Engage the top business energy users to take action on greenhouse gas through offsets and reductions</p> <p><b>Leadership:</b> City leadership, CAS staff, EEC work group, local business organizations</p>	<p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>• Compile list of largest businesses and develop tracking tool for outreach coordination; assess potential barriers.</li> <li>• Develop outreach message and clear ask to partner with the City in achieving the City's GHG reduction goals</li> <li>• Compile relevant resources on energy efficiency, renewable energy opportunities, and other GHG reduction strategies, including natural gas strategies as appropriate</li> <li>• Use city and local leadership to contact 100 of the 400 largest businesses through direct contact or existing forums</li> <li>• Develop 3-4 case studies of local business projects</li> <li>• Share progress and make policy recommendations through regular reports to the EEC and City Council</li> <li>• City leadership and chamber of commerce to identify and recognize business partners, such as at in-person gathering</li> <li>• Work with Xcel Energy to identify partners and best practices</li> <li>• Create a recognition and/or competition partnership with businesses</li> </ul>
<p><b>Strategy:</b> Target small to medium businesses, such as restaurants and retail with recognition programs</p> <p><b>Leadership:</b> CAS Staff, Energy Work Group, local business organizations</p>	<p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>• Document existing City and EEC outreach to small business and lessons learned</li> <li>• Develop standardized messages based on business type to distribute, including both energy efficiency and renewable energy strategies.</li> <li>• Work with the Chamber of Commerce, City, and 50<sup>th</sup> and France Association to assemble lists of similar businesses types and contact through mail and emails</li> <li>• Work with Xcel Energy small to medium business programs, such as TurnKey Services and renewable energy opportunities, and to collaborate on community-specific outreach</li> <li>• Connect businesses with additional resources that can help with GHG reduction, including solid waste</li> <li>• Design and implement a retail-oriented recognition program in partnership with the City Council for companies that undertake the program successfully</li> <li>• Share case studies of businesses that have completed energy projects. Feature these businesses in conjunction with Residential Information Campaign, if applicable</li> </ul>

	<ul style="list-style-type: none"> <li>Distribute a tracking tool for setting an energy baseline, measuring and reporting</li> <li>Work with Xcel Energy to identify best practices</li> </ul>
<b>Strategy:</b> Ongoing Management and tracking  <b>Leadership:</b> CAS Staff	<b>Actions:</b> <ul style="list-style-type: none"> <li>Keep list of recognized business to form a library of best practices. Incorporate reports of City and School actions into this library</li> <li>Provide quarterly progress updates from Xcel Energy</li> <li>Identify other metrics to track progress</li> <li></li> </ul>
<b>Strategy:</b> Assess policy options to support greenhouse gas reduction for Edina businesses.  <b>Leadership:</b> CAS Staff	<b>Actions:</b> <ul style="list-style-type: none"> <li>Review best practice policy options for engaging large and small businesses, including current local policy, and mandatory energy disclosure for large businesses, such as in Minneapolis</li> <li>Assess impact and benefits of city policy options to reduce greenhouse gas emissions in businesses, including: sustainability, roof gardens, LED lighting, energy efficiency, planting trees, composting, and renewable energy subscriptions</li> <li>Research case studies on effective policies from other cities (e.g. Minneapolis, Portland, OR)</li> </ul>
<b>Measuring Success</b>	Track program participation through Xcel Energy data every six months. Document leadership responses from large Edina businesses. Quarterly reports to EEC and City Council.
<b>TEAM</b>	
<b>Community Lead(s)</b>	<b>Lead:</b> Climate and Sustainability Staff <b>Team:</b> Energy and Environment Energy Work Group small group, City leadership
<b>Community Partners</b>	Chamber of Commerce, Rotary Club, 50 <sup>th</sup> and France organization, City communications staff, Xcel Energy program managers, other community leaders.
<b>Outreach and Communication Channels</b>	<p><i>Large Businesses:</i> Leverage business organizations and City staff with connections to largest businesses. Personalized calls from CAS staff, follow-up mailings and calls. Meetings, webinars, and website presence.</p> <p><i>Small and Medium Businesses:</i> Reach through local business associations, e-blasts, and door-to-door flyer distribution.</p> <p><i>General Public:</i> City media channels, including: social media, Sun Current, signage, a video.</p>
<b>Xcel Energy Support</b>	Coordination with Xcel Energy Program Managers, marketing material development support, goal tracking, email blasts, etc.

## KEY ROLES FOR BUSINESS ENERGY STRATEGIES

### Engage the top business energy users to take action on greenhouse gas reductions

**EEC Working Group:** Facilitate partnerships with Chamber of Commerce, City Economic Development Manager, and CAS Staff; help to prioritize messaging and asks to the largest businesses; advocate for resident support of participating businesses; work with City communications, the facilitation team, and Xcel Energy to connect businesses to resources

**City Staff:** Primary lead on direct business outreach, in coordination with EEC network and Xcel Energy staff; create and maintain database of contacts, coordinate with local business organizations, help to refine messaging and marketing materials, program and maintain relevant website content, lead on organizing recognition platforms, City leadership to partner with businesses that want to make a difference and be part of the community to reduce GHG emissions, City leadership to recognize business partners publically

**Xcel Energy:** Provide community-specific segmentation of top energy users that adheres to privacy guidelines, provide informed guidance on how to prioritize businesses, directly contact managed accounts to inform and invite participation, review and help develop marketing materials and relevant program information, contribute best practice expertise on contacting large businesses and compelling calls to action, offer Xcel Energy subject matter experts given interest in specific efficiency and renewable energy topics

### Target small to medium sized businesses, such as restaurants and retail, with recognition program

**EEC Working Group:** Facilitate partnerships with the Chamber of Commerce and other professional organizations; review priority actions of small businesses for greenhouse gas impact; coordinate with City communications and Xcel Energy team to develop and promote successful recognition campaign; advocate for resident support of participating businesses

**City Staff:** Document existing work, develop list of local businesses, develop outreach and recognition materials, coordinate with professional organizations, create recommended list of energy tracking tools and software for business energy reduction, manager workload for City leaders

**Xcel Energy:** Provide community-specific data to inform business segmentation; assist in developing and reviewing marketing materials, provide Xcel Energy subject matter experts to provide energy reduction practices if there's enough interest, contribute best practice expertise on contacting small businesses

### Ongoing management and tracking

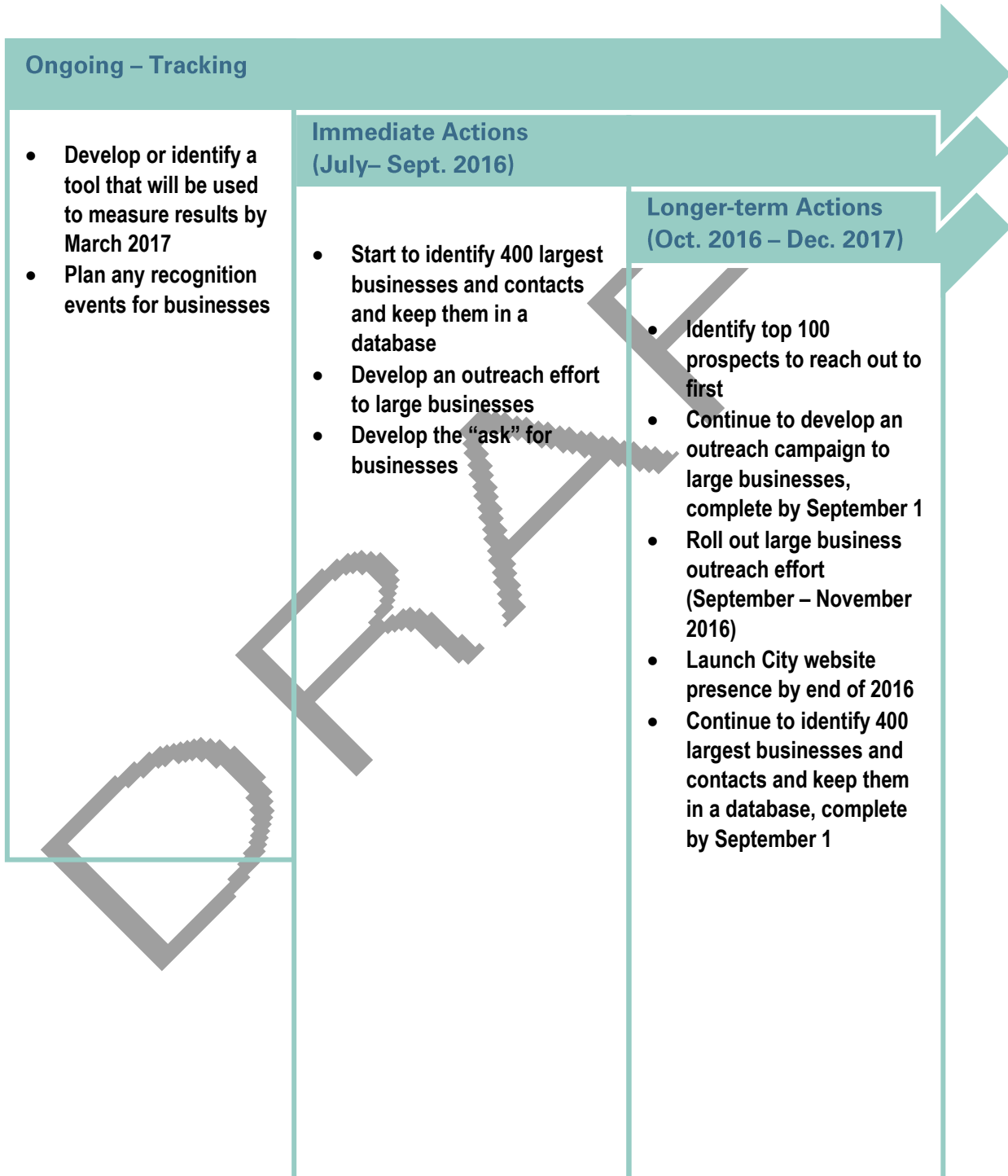
**EEC Working Group:** Share updates with the broader EEC, coordinate with City staff, advocate for policy options, design an annual recognition program, research case studies for policy options as needed

### Assess policy options to support greenhouse gas reduction for Edina businesses

**City Staff:** Coordinate with EEC and Xcel Energy, provide analysis of policy options, manage library of case studies and participating businesses, administer recognition program

**Xcel Energy:** Provide quarterly updates based on identified tracking metrics, provide overall project tracking and management, including facilitated meetings and follow up, provide expertise on business recognition programs

## Business Energy Focus Area Timeline



## How Are We Going To Stay On Course? – Monitoring and Reporting

This plan outlines strategies and specific actions that will meet community wide goals, focusing on the first 18 months of Partners in Energy supported activity. As the planning team transitions to implementation, structuring implementation teams around regular accountability and progress updates will be key to success.

Core City staff, including the Conservation and Sustainability Staff and potentially members of the EEC work groups, will initially meet bi-weekly with Xcel Energy Partners in Energy staff to coordinate resources and develop a more detailed work plan. The Xcel Energy Partners in Energy staff will work to schedule these meetings on a standing basis with City staff. These meetings will serve to share information on progress and strategies, and to coordinate support from Xcel Energy Partners in Energy staff. EEC members will start with the actions outlined in the “immediate actions” outlined in this plan, and develop more detailed monthly work plans within specific focus area work groups and share these work plans with the Conservation and Sustainability staff.

### Operational Actions and Tracking

The Partners in Energy facilitation team will work with Xcel Energy to obtain electricity usage data and program participation data, and will share outcomes with the new Conservation and Sustainability staff position. Data can be split by sector, so each focus area will be able to track progress. The Conservation and Sustainability staff will work with the Energy and Environment Commission Energy Work Group to publicize results and share with City Council and the broader Edina community.

Strategy and focus area leads are identified for each of the three focus areas. In addition to City support for implementation of this action plan, the Energy and Environment Committee will form citizen work groups to work on each focus area. Xcel Energy and the facilitation team will continue to support project management and provide other resources throughout implementation.

The new Conservation and Sustainability staff member will act as a point person for implementation, and should be cc'd on work group emails to track progress, as well as community facilitator Emma Struss ([estruss@mncee.org](mailto:estruss@mncee.org)). As the role is onboarding, Ross Bintner ([RBintner@edinamn.gov](mailto:RBintner@edinamn.gov)) should be cc'd until the new staff is in place.

### Communication and Reporting

Each strategy has outlined plans to keep the broader Edina community engaged and informed throughout Partners in Energy implementation. A website presence will be developed to provide access to resources and tracking for all community members. Energy and Environment Commission work groups for each focus area will meet regularly. The full EEC meets on a

monthly basis. Overall, progress will be tracked on a quarterly basis from energy data provided by Xcel Energy and analyzed by the facilitation team. The team will work closely with the Conservation and Sustainability staff member and EEC small group to ensure data is distributed.

## **Evolution of Strategies and Goals**

This plan outlines strategies and goals for an 18-month implementation period. It is anticipated that the success and outcomes of initial actions will impact how each focus area moves forward. Initial actions that will happen in the next three months are more clearly defined, with following actions intentionally left more broad to flex with the outcomes of the first few months of implementation. City staff and the citizen small groups working on plan implementation will help to determine how and when strategies and actions need to shift course.

## Appendix 1: Glossary of Terms

**Community Data Mapping:** A baseline analysis of energy data in a geospatial (map) format across the community.

**Demand Side Management (DSM):** Modification of consumer demand for energy through various methods, including education and financial incentives. DSM aims to encourage consumers to decrease energy consumption, especially during peak hours or to shift time of energy use to off-peak periods, such as nighttime and weekend.

**Energy Action Plan:** A written plan that includes an integrated approach to all aspects of energy management and efficiency. This includes both short- and long-term goals, strategies, and metrics to track performance.

**Energy Star Homes:** A certification program administered by the U.S. Environmental Protection Agency, for new homes that are designed and built to defined high energy efficiency standards.

**Goals:** The results toward which efforts and actions are directed. There can be a number of objectives and goals outlined in order to successfully implement a plan.

**Greenhouse Gas (GHG):** Atmospheric gases that absorb infrared radiation and contribute the greenhouse gas effect, including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (NO<sub>2</sub>), and water vapor.

**kWh (kilowatt-hour):** A unit of electricity consumption.

**Home Energy Squad (HES):** Home Energy Squad is a joint offering between Xcel Energy and CenterPoint Energy in communities where CenterPoint Energy provides natural gas service. The program helps residential customers reduce energy use in their homes by completing direct installs. The "Enhanced" version of the program includes diagnostic testing and follow-up support. The City of Edina currently buys down Home Energy Squad Enhanced visits for residents to \$50.

**Metro Clean Energy Resource Teams (CERTs):** A Twin Cities based organization that empowers communities and their members to adopt energy efficiency and renewable energy technologies and practices for their homes, businesses, and local institutions.

**Minnesota GreenStep Cities:** Minnesota GreenStep Cities is a voluntary challenge, assistance, and recognition program to help cities achieve their sustainability and quality-of-life goals.



**Premise:** A unique identifier for the location of electricity or natural gas service. In most cases it is a facility location. There can be multiple premises per building, and multiple premises per individual debtor.

**Recommissioning:** An energy efficiency service focused on identifying ways that existing building systems can be tuned-up to run as efficiently as possible.

**Regional Indicators Initiative:** The Regional Indicators Initiative measures annual performance metrics for 22 Minnesota cities. The project tracks data on Energy, Water, Travel, Water, GHG Emissions, and Cost. To learn more, visit [www.regionalindicatorsmn.com](http://www.regionalindicatorsmn.com).

**St. Paul Port Authority PACE of MN Program:** This program finances energy efficiency and renewable energy upgrades to buildings. PACE provides low-cost, long-term financing that is repaid as a property tax assessment for up to 20 years.

**Windsource®:** A program from Xcel Energy that allows customers to purchase blocks of wind energy as their electricity source.

## Appendix 2: Workshop Process Overview

### Workshop Process Overview

The section below includes more detail on how the group developed the above vision, focus areas, and strategies over the course of four workshops.

#### Workshop 1

The facilitation team introduced the Partners in Energy program, and presented an initial set of data on Edina energy usage. The group brainstormed their favorite Edina assets. First individually, and then as a group, the team defined what an ideal energy future for Edina looks like. As team members presented the qualities they deemed most important, trends surfaced which included a focus on high quality of life, good City government, innovation, leadership, and a desire for a measurable, affordable and attainable vision. At the end of Workshop 1, three volunteers formed a small workgroup to wordsmith a draft vision statement.



Workshop 1 Visioning

#### Small Visioning Group

A small group developed three energy vision statements based upon the Energy Action Team's workshop discussion. They used materials provided by the facilitation team as a guideline, and drafted a vision statement. These three statements were sent out for community feedback between Workshop 1 and Workshop 2. The most preferred statement was presented to the group at Workshop 2.

#### Workshop 2



Workshop 2 Focus Areas

The workshop started by recapitulating Workshop 1 and setting objectives for Workshop 2. Background information on Edina's 25/25 Goals and the Energy and Environment Commission was presented by Bill Sierks and Sarah Zarrin. Michelle Swanson presented on Xcel Energy's Sustainability Activities. The facilitation team then presented detailed data and opportunities in the residential and business energy sectors. The group worked individually and then as a team to identify areas of focus for the Energy Action Plan, grouping ideas into "residential," "business," and "other" categories. As the group discussed focus areas, several themes emerged: providing information to residents about existing programs and technologies, leveraging the schools and youth, creating new City policies, reaching out to businesses through professional organizations, leveraging feedback on energy usage to promote behavior change, and

increasing Windsource® subscriptions. The group reviewed and discussed the energy vision statement, identifying a few areas for clarification. At the end of Workshop 2, the facilitation team identified next steps.

### Workshop 3

The group shared their individual energy use during introductions, and recapped Workshop 2. Then the group walked through each of the focus areas brainstormed in Workshop 2, noting impact and feasibility considerations as well as addition background research provided by the facilitation team. The group then nominated and voted on focus areas. The top four focus areas were: Schools and Service Learning (6 votes), Residential Information Campaign (5 votes), City Facilities (5 votes), and Residential Windsource® (4 votes.) The next focus area was Outreach through Organizations for Businesses, which was shelved to revisit at Workshop 4, when more business representatives could attend. The facilitation team walked through an introduction to goals and



Workshop 3 Small Groups

strategies. The group broke into three small groups to discuss Schools and Service Learning, Residential Information Campaign, and Residential Windsource®. Each small group brainstormed draft goals and strategies and shared them back with the larger group.

### Workshop 4



Workshop 4 Strategy Work

As an introduction, the group shared energy savings actions they would recommend to their neighbors. The group then reviewed focus areas selected at Workshop 3, including information on the potential impact of draft goals. The group also discussed Edina's BAU (business as usual) projections for carbon emissions in the electricity sector, showing that Edina is anticipated to exceed a 30% reduction in electricity-driven carbon emissions by 2025. Ross Bintner presented calculations and research on the Municipal Facilities focus area, including a rough greenhouse gas inventory. The group discussed adding a business-oriented focus area and decided that it would be beneficial. The team broke into small groups by focus area to refine strategies and goals. Small

groups included: Residential Information Campaign, Schools and Service Learning, and Business Efficiency. The group shared back with the group and noted actions to accomplish before the next workshop.

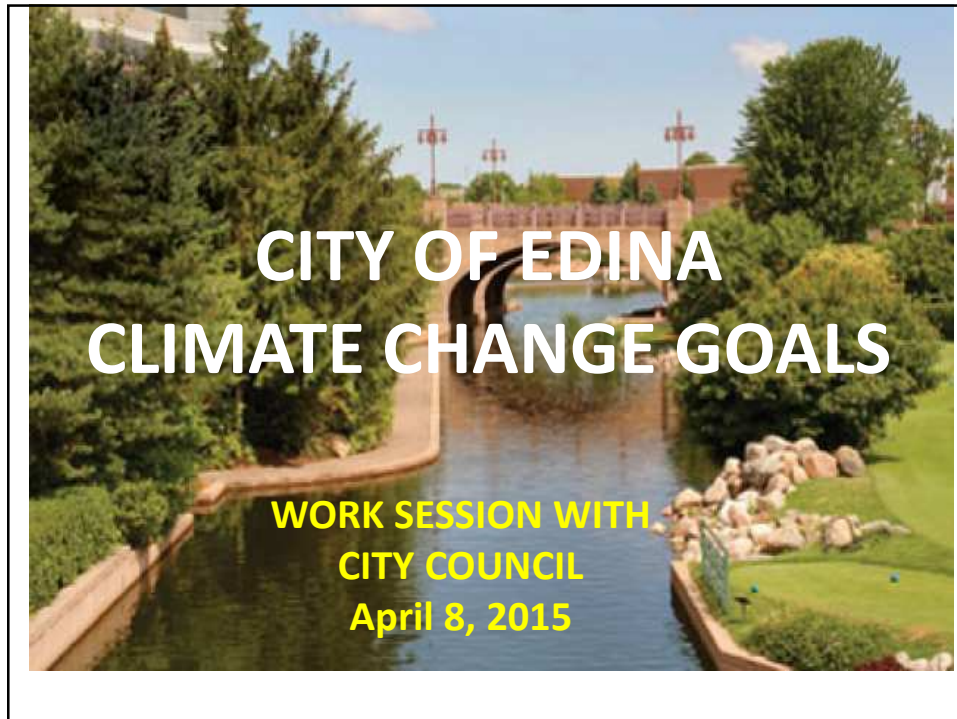
## Workshop 5

The facilitation team gave a recap of the resources available for implementation and what the next steps for the plan would look like. The Energy Action team reviewed decisions made between workshops four and five, including the change of the Schools and Service Learning focus area, as well as a desire to call out the electricity-centric focus of this planning document. The team voted to discontinue the Windsource® focus area as a separate focus area, but to include components in the business focus area as well as the residential focus area. The bulk of the workshop was spent in two small groups: Residential Information Campaign and Business Energy. The small groups worked on finalizing goals and strategies, and the residential small group worked to place actions on a timeline. Both small groups cited a need to meet again and refine the strategies, goals, and actions of the focus areas.



**Workshop 5 Energy Action Team Group Photo**

DRAFT



## **GHG MILESTONES**

- **U.S. MAYORS CLIMATE PROTECTION AGREEMENT – 2/07**
- **ICLEI CITIES FOR CLIMATE PROTECTION – 11/07**
  - 5 Milestones Commitment
- **CHAPTER 10 CITY COMPREHENSIVE PLAN – 2008**
  - Adopts MN Next Gen Energy Goals

## EDINA COMPREHENSIVE PLAN GREENHOUSE GAS REDUCTION GOALS

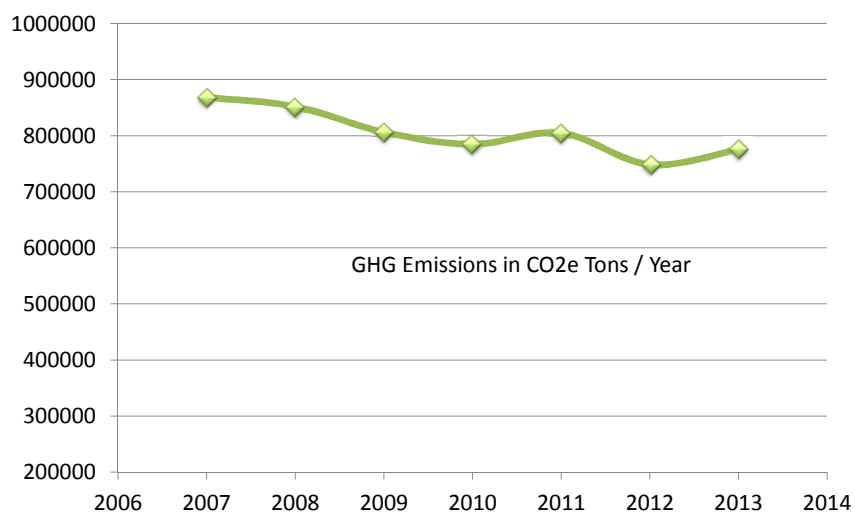
**15 % by 2015**

**30% by 2025**

**80% by 2050**

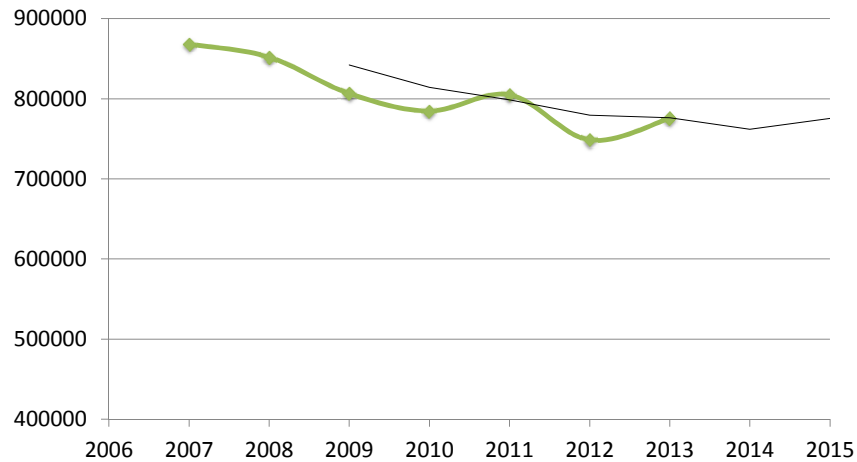
Comp Plan 10.2.3.

## EDINA COMMUNITY GHG EMISSIONS 2007 - 2013 - Down 8.9%





## 2015 Goal Requires 5% Reduction From 2013



## Comp Plan Progress Report: Action Needed - 1

### 1. Establish city carbon footprint

#### --- Inventory, baseline and forecast

- Community Baseline (Regional Indicators)
  - No City Baseline
  - No Inventory
  - No forecast

Comprehensive Plan 10.2.3.



## **Comp Plan Progress Report: Action Needed - 2**

### **2. Develop GHG Reduction Targets For City Operations**

- **No Targets developed**

Comprehensive Plan 10.2.3.

## **Comp Plan Progress Report: Action Needed - 3**

### **3. Develop Local Action Plan**

- Specific policies and measures to achieve targets
- Timelines, financing mechanisms
- Assign responsibility to staff, departments

- **No City Action Plan**

Comprehensive Plan 10.2.3.

## **EEC RECOMMENDS COUNCIL TAKE SEVERAL ACTIONS**

- 1. Set Interim GHG Goals & Targets**
  - A. Energy**
  - B. Vehicle Emissions & Miles Traveled**
  - C. Waste & Wastewater**

## **EEC RECOMMENDED ACTIONS - 2**

- 2. Appoint City Council Champion**
- 3. Name Department and Staff  
Responsibility In Specific Work  
Plans**

## **EEC RECOMMENDED ACTIONS - 3**

- 4. Provide Funding Support for GHG Action Steps In EEC Workplan**
  - First Priority: Energy Efficient Building Project Funding Is Vital - Approval Needed**

## **MN BENCHMARKING PROGRAM SHOWS CITY CAN SAVR OVER \$500,000 ANNUALLY**

- Edina Ranked # 155 of 214 Benchmarked Cities**
- \$523,000 in Potential Annual Energy Savings**
- Fourth Highest City in Potential Savings**

## **EEC WORK PLAN**

- **GHG Action is #1 priority**
- **City Building efficiency has been top strategy of EEC for 3 years.**

## Appendix 4: 2015 City Greenhouse Gas Footprint Analysis and Reduction Concept presented by Ross Bintner

**DATE:** February 23, 2016

**TO:** Partners in Energy Planning Team

**CC:** Energy and Environment Commission

**FROM:** Ross Bintner P.E. - Environmental Engineer

**RE:** **City of Edina Energy, Conservation and Sustainability Goal Summary**

This report provides a summary of energy, environment and sustainability goals to support the Partners in Energy planning initiative city operations focus area. This report is an update to a report initially produced in 2013 to support an Energy and Environment Commission (EEC) initiative to better integrate City environmental sustainability goals into City operations.

### Mission and Vision

The mission of the City of Edina defines the foundation for the organization. The mission reflects the authorities and core services that are delegated to Cities in Minnesota including public safety, local transportation networks, clean water and public sanitation, and orderly land use. The mission specifically recognizes key roles of infrastructure systems, land redevelopment and public facilities in sustaining a high quality of life in the community.

- *Our mission is to provide effective and valued public services, maintain a sound public infrastructure, offer premier public facilities and guide the development and redevelopment of lands, all in a manner that sustains and improves the uncommonly high quality of life enjoyed by our residents and businesses*

The vision of the City of Edina was recently updated after extensive public involvement. Vision Edina defines how the organization and community at large sees itself and its approach and understanding of future challenges.

- *Edina holds a well-earned reputation as a city of choice. It is the model of a successful, mature, and progressive urban community, that strives to lead in a modern and evolving world. We maintain our heritage and attractiveness, and afford our residents the highest quality of life, while actively embracing our future.*

This vision also spells out five strategic focus areas; 1) Inclusive and connected, 2) Built-to-scale development, 3) Sustainable environment, 4) A community of learning, 5) Future oriented. Strategic area four includes specific vision statements that speak from the future about sustainability including;

- Edina has focused and invested in world-class citywide resource management systems, built around the leading principles of environmental sustainability.
- We have substantially reduced our overall environmental impact and significantly increased our resource use efficiency.
- Our planning has integrated the best-proven standards of sustainable building and environmental stewardship into all aspects of our city planning and building codes.
- Our community continues to treasure and protect our public spaces and parks. We have enhanced our biodiversity and natural ecosystems, which in turn support and purify our natural environment.

While the mission of the City of Edina can be accomplished without an emphasis on environmental sustainability, the vision of the Community includes the specific focus to implement the mission in a way that is future oriented, and environmentally sustainable.

### Comprehensive Plan, Goals and Policy

A variety of city wide policy and plan speak to topics of conservation and sustainability. Specific City Council resolutions, City ordinance and the Comprehensive Plan were reviewed. The following list is intended to summarize types of energy, and environment topics, and specific goals articulated in each document relating to energy, conservation and sustainability.

1. Resolution 2007-05 City Code Section 2-137 and formation of the EEC
  - a. No specific goals set.
2. Code of Ordinances, Chapter 2, Article 3, Division 3 [\(2-137\)](#) Energy and Environment Commission
  - a. Chapter two, division I describes role of boards as providing advice to Council and investigate subjects of interest to the City.
  - b. The Council, recognizing the need to support and advance environmental protection, conservation efforts including energy conservation, and waste reduction, and to improve thereby the overall welfare of the citizens of the City, does hereby establish the Energy and Environment Commission.
  - c. Duties; The Commission shall:
    - i. *Examine and recommend best practices for energy conservation for Edina's citizens and businesses, including a "green" building code, use of Energy Star appliances, and other energy reduction targets.*
    - ii. *Examine and recommend changes in City Government purchasing and operations to conserve energy.*
    - iii. *Evaluate and monitor the provision of a residential recycling program.*
    - iv. *Evaluate and monitor the provision of a privately provided solid waste program, as well as a reduction in municipal solid waste produced by Edina residents and businesses.*
    - v. *Evaluate and encourage improvements in air and water quality.*
    - vi. *Promote the establishment of targets for the reduction of greenhouse gas emissions produced by the City's buildings, equipment and operations.*
    - vii. *Educate the public about energy issues, reduction, conservation, reuse, recycling and environmental protection.*
    - viii. *Examine and promote renewable energy options for transportation, heating, and cooling, and other energy uses.*
3. Resolution 2007-20 Endorsing US Mayors Climate Protection Agreement
  - a. Preamble contains mentions of IPCC study, greenhouse gas (GHG) reduction, climate change, adaptation, planning for natural disasters, and the Kyoto Protocol.
  - b. RESOLVED, that the U.S. Conference of Mayors endorses the U.S Mayors Climate Protection Agreement.
  - c. RESOLVED, that the U.S. Conference of Mayors will work in conjunction with ICLEI Local Governments for sustainability or other appropriate organization for track progress and implementation of the U.S. Mayors Climate Agreement. (The wording of the ordinance seems to simply proclaim the work of the US Mayor group)
4. Resolution 2007-119 Joining ICLEI Cities for Climate Protection Campaign
  - a. Preamble assumes 2007-20 authorized city signing the U.S. Mayors Climate Protection Agreement and that the City has committed to take a variety of actions including:
    - i. *Urging Federal policy and programs to meet Kyoto protocol goals*
    - ii. *Promote land use and transportation policies that reduce GHG*
    - iii. *Increase use of renewable energy and energy efficiency*
    - iv. *Adopt purchasing and building construction and operations practices that reduce GHG*
    - v. *Increase recycling rates and urban forest cover*
    - vi. *Support education efforts to reduce GHG in the community*

- b. RESOLVED, City will join ICLEI Cities Climate Protection Campaign and take a leadership role in reducing GHG in the community and promote public awareness about impacts of climate change.

5. 2008 Comprehensive Plan [Chapter 10](#) Energy and Environment

- a. Section 10.1 Introduction and History: This section describes a history of environmental action in Edina and the formation of the EEC.
- b. Section 10.2 Climate Change and Global Warming: includes trends and challenges, background describing ICLEI and Mayor Climate Protection resolutions, and 2007 State GHG goal are included. This section includes the following goals and policies:
  - i. *Conduct 2007 Baseline GHG emissions assessment (this effort was undertaken by the EEC, but the result is of little organizational value as a baseline due to the lack of data transparency and final report)*
  - ii. *GHG reduction goal: 15% reduction by 2015, 25% reduction by 2025, 80% reduction by 2050 (the 2025 goal has been interpreted to be in error, as the reference standard is set at 30% by 2025.)*
  - iii. *Develop a local action plan*
  - iv. *Implement policies and measures in the local action plan*
  - v. *Monitor and verify results of implementation*
- c. Section 10.3 Energy: Describes environmental costs of current mix of energy generation, and states importance of developing local and renewable sources of electric power. Topics of biofuels and fuel use reduction are covered. This section includes the following goals and policies:
  - i. *Lead by example in conserving energy and developing renewable energy for city buildings, fleets and operations.*
  - ii. *Promote community and business energy conservation including policies or incentives for energy efficiency, renewable energy, and reduction in GHG*
  - iii. *Adopt purchasing guidelines for Edina that include renewable energy sources such as wind sourced electric or biofuels.*
  - iv. *Promote educational programs to inform residents and businesses about energy*
  - v. *Obtains grants for adoption of renewable energy sources and work to make these projects self-sustaining.*
- d. Section 10.4 Solar Protection: Discusses potential for ordinances for solar protection and details 4 considerations and specific actions to develop further policy in this area. This section includes the following goals and policies:
  - i. *Continue to enforce setback, building height, and lot coverage ordinance that can serve as protection to solar access*
  - ii. *Consider access to solar when reviewing variance applications*
  - iii. *Promote use of passive solar in building design*
  - iv. *Establish policies to restrict development for the purpose of protection solar access*
- e. Section 10.5 Residential Energy Consumption: The section details the three major components of residential energy use; electric, heat and transportation and discusses energy trends and the Energy Star label. This section includes the following goals and policies:
  - i. *Inform residents on energy efficiency*
  - ii. *Create incentives to reduce residential energy use*
  - iii. *Promote LEED certification for new construction*
  - iv. *Encourage green materials and tree planting to reduce heating and cooling needs*
  - v. *Inform homebuilders and remodelers of energy efficiency*
- f. 10.6 Commercial and Industrial Energy Consumption: This section discusses potential opportunity for efficiency in the commercial and industrial sector, as well as challenges. This section includes the following goals and policies:
  - i. *Promote renewable energy*



- g. 10.7 City Energy Consumption: Describes the ability of the city to play a leadership role by reducing its own energy in buildings (56%), water and sanitary operations (33%), Fleet (5%), Street lights (2%) and employee commute (4%). This section includes the following goals and policies:
  - i. *Create benchmarks for current energy use in all public facilities and reduce to GHG reduction goal.*
  - ii. *Establish policy for annual build energy use report and goals for reduction.*
- h. Section 10.8 Waste: This section discusses the history of recycling in Edina, and describes the state of the industry and an increasing amount of waste generated. Trends in waste types and options for handling are discussed such as sources separated organic composting and electronic waste. This section includes the following goals and policies:
  - i. *Continue to operate a household recycling program encouraging reduction, reuse and recycling*
  - ii. *Encourage backyard home composting of organic material*
  - iii. *Support citywide collection of source separate organics*
  - iv. *Encourage businesses to participate in MN chamber waste wise program*
  - v. *Encourage proper disposal of household hazardous waste*
  - vi. *Educate consumers to buy green*
  - vii. *Recommend changes to City purchasing policy*
  - viii. *Expand range of plastics that can be recycled*
  - ix. *Encourage greater recycling among businesses*
  - x. *Identify an Edina site that would produce renewable energy from City waste, such as an anaerobic digester.*
- i. Section 10.10.1 Air: This section describes coal burning and automobile traffic as major causes of impairment to generally good air quality and also details potential indoor air quality issues. This section includes the following goals and policies:
  - i. *Cooperate with statewide and regional air quality efforts*
  - ii. *Encourage mechanical ventilation systems in new homes*
  - iii. *Provide incentives for building practices that improve indoor air quality*
  - iv. *Encourage tree planting to reduce noise and absorb carbon*
  - v. *Consider vehicle idling ordinance, and promote 'no idling' near school and public parking lots*
  - vi. *Promote the use of renewable energy sources to reduce coal particulate in regional air*

6. 2008 Comprehensive Plan – Related Chapters

- a. [Chapter 4](#) – Land Use
  - i. Chapter 4.2 details natural features, landforms, water resources around which the built-environment is situated. The land use example of Southdale explains a context of using a massive heat pump, the largest in the world at the time, to “make our own weather at Southdale.”
  - ii. Chapter 4.3 details issues around zoning, mixed uses, and connectivity of transportation networks.
  - iii. Chapter 4.4 includes goals to increase pedestrian and bicycling opportunities and connects, and reduce dependence on the car, as well incorporating principles of sustainability and energy conservation into all aspects of design, construction, renovation, and long-term operation of new and existing development. This chapter also talks about the fundamental link between land use and transportation.
- b. [Chapter 7](#) – Transportation
  - i. Goals include; Minimizing the impacts of the transportation system on Edina’s , reducing the overall dependence on and use of single-occupant vehicles, Provide multiple travel options for transit users, pedestrians, bicyclists, and rideshare users, managing parking and encourage join and shared use of facilities, ride share, bicycle parking, and increased transit use, and providing efficient movement of goods.
  - ii. Policies include; Use economic and environmentally sound management techniques for snow and ice removal, a variety of pedestrian and bicycle recommendations.

c. [Chapter 8](#) – Water Resource Management

- i. This section covers the three major utilities that provide clean water service to Edina; Sanitary Sewer, Domestic Water, and Storm Sewer. Descriptions of the capacity of trunk sewers indicate that total water and sanitary use are a critical factor in the ultimate development density of the City. The storm sewer services of clean surface water and flood protection are described in detail and reference the Comprehensive Water Resource Management Plan, Nondegradation of Waters Report, local watershed plans, individual lake studies, and Stormwater Pollution Prevention Plan.
- ii. Goals include; Eliminating inflow and infiltration of clean water into the sanitary system and protecting the health safety and welfare of citizens, modifying permitting and enforcement processes for construction activities, clean water education, providing clean, safe and high quality potable water, provide for sustainability of water supply through promotion of water conservation.
- iii. Policies include; Eliminating points of inflow and infiltration to the sanitary system, restricting discharge of clean water into the sanitary system, implementation of the various surface water and pollution prevention plans for clean water and flood protection and implementation of the Water Supply Plan to encourage a reduction in water demand.

d. [Chapter 9](#) – Parks Open Space, and Natural Resources

- i. This section details links to surface water quality and parks operations, the restoration of natural resources, links to community health, active living goals and recreation places and space opportunities and regional amenities and trail networks. A variety of natural areas are catalogued, and environmental trends listed.
- ii. This section includes a “Natural Resource Conservation and Management” part that details water resources and natural areas, and a “Wildlife Management Plan” that details habitat for birds and wildlife, and conservation and restoration of natural areas.
- iii. Natural resource and wildlife goals include; Establishing a natural resource conservation and management plan for restoration and protection of natural resources. Ensure development includes provisions for protection of shorelines, creeks and lakes. Identify a master landscape planting plan for all Edina parks. Conserve and replace Edina urban forest. Maintain existing wildlife sanctuaries. Continue to improve shoreline fishing opportunities.
- iv. Natural resource and wildlife policies include; conducting a natural resource inventory of prairies, woods, wetlands, establishing a natural resource conservation and management plan, managing deer, goose and beaver population, and provide fishing opportunities.

7. 2011-37 Joining Greenstep Cities

- a. No specific goals or policy set; implementation actions intended to help City meet its sustainability goals. Challenge, competition, recognitions and ideas-network functions served as well.
- b. Preamble describes GHG reduction goals in 2007 Next Generation Act goals.
- c. Appoints the EEC to serve as the GreenStep coordinator.

While detailed plan and policy information exists in the Comprehensive Water Resources Management Plan, and the Parks Strategic plan about water and natural resource environmental service, these topics were only covered to the level of the comprehensive plan in the “related chapters” section.

**Attachments:**

Link to prior [Vision and Strategic Plan](#)

Link prior [Vision Edina](#)

Link to [Comprehensive Plan](#)

Copy of prior summary memo includes [Resolution 2007-20, Resolution 2007-119, and Resolution 2011-37](#)

Link to Section [\(2-137\)](#) Energy and Environment Commission

**DATE:** February 23, 2016

**TO:** Partners in Energy Planning Team

**CC:** Energy and Environment Commission

**FROM:** Ross Bintner P.E. - Environmental Engineer

**RE:** **City Operations Focus Area / Footprint Analysis and Reduction Concept**

The Partners in Energy Planning team chose a focus area around greenhouse gas (GHG) in City of Edina operations. This report was requested by the team, and provides a concept-level estimate of GHG footprint in City operations to inform the effort of the planning team.

The “concept” level of detail is important to note, as I have not been trained to perform GHG analysis. In performing this analysis I worked with planning team member Kyle Sawyer, and Michael Orange with Orange Environmental to translate 2015 City of Edina expenses data into approximate GHG emissions. Mr. Orange has conducted GHG assessments and politely emphasizes my lack of training when asked! In addition to GHG, I also attempted to summarize other notable environmental footprint not directly related to energy, such as water and land to demonstrate the concept of tradeoffs in City operations.

#### Methodology and Analysis

Mr. Sawyer provided a spreadsheet with all 2015 budget and actual expenses broken down by City of Edina business units and object accounts. The business units were ignored, and the object accounts were used to group like expenses into total dollar values. Those total dollar values were then converted to units of material or energy, or directly translated to GHG using reference factors from a variety of information sources noted in Table 1. To use an analogy: Sometimes we try to get ‘ballpark’ estimates; In this case, I see turf under my feet, and suspect I’m in a ballpark, but I still don’t know if I’m in the right ballpark! Chart 1 presents the same information, in a visual format to draw attention to areas of opportunity. Note that only GHG footprint is represented and that capital expenditure “pathways” are underrepresented in importance. For example, while Edina may only spend a third of the budget on new equipment, vehicles, buildings and roads, these new and replacement facilities and infrastructure write future energy costs into concrete, steel and stone.

Since business units were ignored in the summary, I try to map major sources of GHG back into the business unit framework in Table 2, by summarizing notable city services and footprint that associate highly with each type of expense and GHG. In Table 2, I also provide example indicators where environmental performance is now measured and where policy or tools currently exist. I look forward to the help of the planning team, and the EEC in completing this policy tool mapping exercise.

To extend the concept, and start to point toward solutions, Table 3 provides very rough GHG reduction strategy, estimates and costs and starts to not opportunities and barriers. While this may not be the focus of Partners in Energy meeting 4, we may get to this level of detail in subsequent meetings. Your input is required and welcome. Table 4 demonstrates the level of implementation needed for various levels of reduction.

#### **Attachments:**

Table 1 – GHG Estimate from City Operations  
Chart 1 – GHG Estimate by Category of Major Expense.  
Table 2 – Footprint, Indicators, Tools and Policy  
Table 3 – Concept GHG Reduction Options  
Table 4 – Concept GHG Reduction Plan

# City of Edina: Municipal Spending and Rough Greenhouse Gas Estimate

Updated: 2/7/16

The purpose of this analysis is to use established conversion factors and data from other cities to derive a very approximate estimate of greenhouse gas (GHG) emissions associated with normal city government operations.

**Table 1: Greenhouse Gas Emission Estimate: City Operations**

Major Categories	Total Costs <sup>9</sup>	Equivalencies Units/\$	Energy	Units	GHG Tonnes/Unit	GHG Tonnes	% of Budget	% of GHG	GHG TN/ 1000 \$
<b>Emission sources:</b>			<b>Direct Burn / Energy Conversions / Territorial GHG</b>						
Electricity (kWh) <sup>1</sup>	\$2,037,311	0.081	25,030,842	kWh	0.00048	12136	2.4%	26.6%	5.9566
Natural gas (therms) <sup>2</sup>	\$421,502	0.800	526,878	Therms	0.00550	2898	0.5%	6.4%	6.8743
Sewer/Water <sup>3</sup>	\$4,710,101		12,572,119	kWh	0.00063	7944	5.5%	17.4%	1.6867
Anthropogenic			6,662,417	kWh	0.00063	4210			
Biogenic			5,909,702	kWh	0.00063	3734			
Liquid fuels <sup>4,5</sup>	\$479,197	147,717				1412	0.6%	3.1%	2.9466
Gasoline (US gal.) <sup>9</sup>		88,654	88.65	1,000 gal	8.92	791			
Diesel (US gal.) <sup>9</sup>		59,063	59.06	1,000 gal	10.51	621			
Solid waste management <sup>7</sup>	\$523,533				2.1	550	0.6%	1.2%	1.0500
<b>Subtotal Scope 1,2</b>	<b>\$8,171,645</b>					<b>24939</b>		<b>100.0%</b>	<b>3.0519</b>
<b>Other costs / Outside ICELI Scope:</b>			<b>Consumption Based / Supply Chain / Procurement GHG</b>						
Personnel (FTE)	\$33,732,354	500		FTE	20	10000	39.6%	21.9%	0.2965
Professional Services	\$8,133,116	121		FTE	20	2411	9.5%	5.3%	0.2965
Communications Services	\$217,137			\$	0.35	38	0.3%	0.1%	0.1750
Materials	\$1,843,498			\$	0.75	691	2.2%	1.5%	0.3750
Goods / Services	\$4,130,918			\$	0.49	1012	4.8%	2.2%	0.2450
Equipment & Gov't CapX	\$14,985,889			\$	0.45	3372	17.6%	7.4%	0.2250
Enterprise CapX	\$14,000,000			\$	0.45	3150	16.4%	6.9%	0.2250
<b>Subtotal Scope 3</b>	<b>\$77,042,912</b>					<b>20674</b>			
<b>Total</b>	<b>\$85,214,557</b>					<b>45613</b>	<b>100.0%</b>		

## Notes:

- 1 Average cost per kWh is from the city operations baseline assessment portion of the "Shorewood Renewable Energy Project, 2015." Data is for 2013. The source for the GHG emission rate is Xcel Energy for 2013.
- 2 Source for cost per kWh: CenterPoint Energy. Downloaded from: Source for GHG emission factor: Table G.11, *International Local Government Greenhouse Gas Emissions Analysis Protocol*, Version 1.1, May 2010.
- 3 Assumes 95% of costs are electricity based and 5% natural gas based per cities of Shorewood and Burnsville, 2013 (refer to Table 2).
- 4 Source: Table G.12, *International Local Government Greenhouse Gas Emissions Analysis Protocol*.
- 5 Transportation fuels sold in Minnesota have blends of ethanol that are higher than the national average, thus, per-gallon GHG emissions will be relatively lower. From 2001 to 2005, the state required 10% ethanol in gasoline. From 2006 to the present, the state added the requirement of 5% ethanol in diesel fuels.
- 6 Assumes the share of total emissions associated with solid waste management in Edina are comparable to the share in the cities of Burnsville and Shorewood (refer to Table 2).
- 7 Assumes contract service for normal public works responsibilities in Edina are comparable to the share in the cities of Burnsville and Shorewood (refer to Table 2).
- 8 Refer to Table 2 for comparison figures for the cities of Shorewood and Burnsville.
- 9 Source: City of Edina / <http://coolclimate.berkeley.edu/business-calculator> for Outside scope items.

Chart 1: City of Edina / Rough Greenhouse Gas Estimate By Major Category of Expense

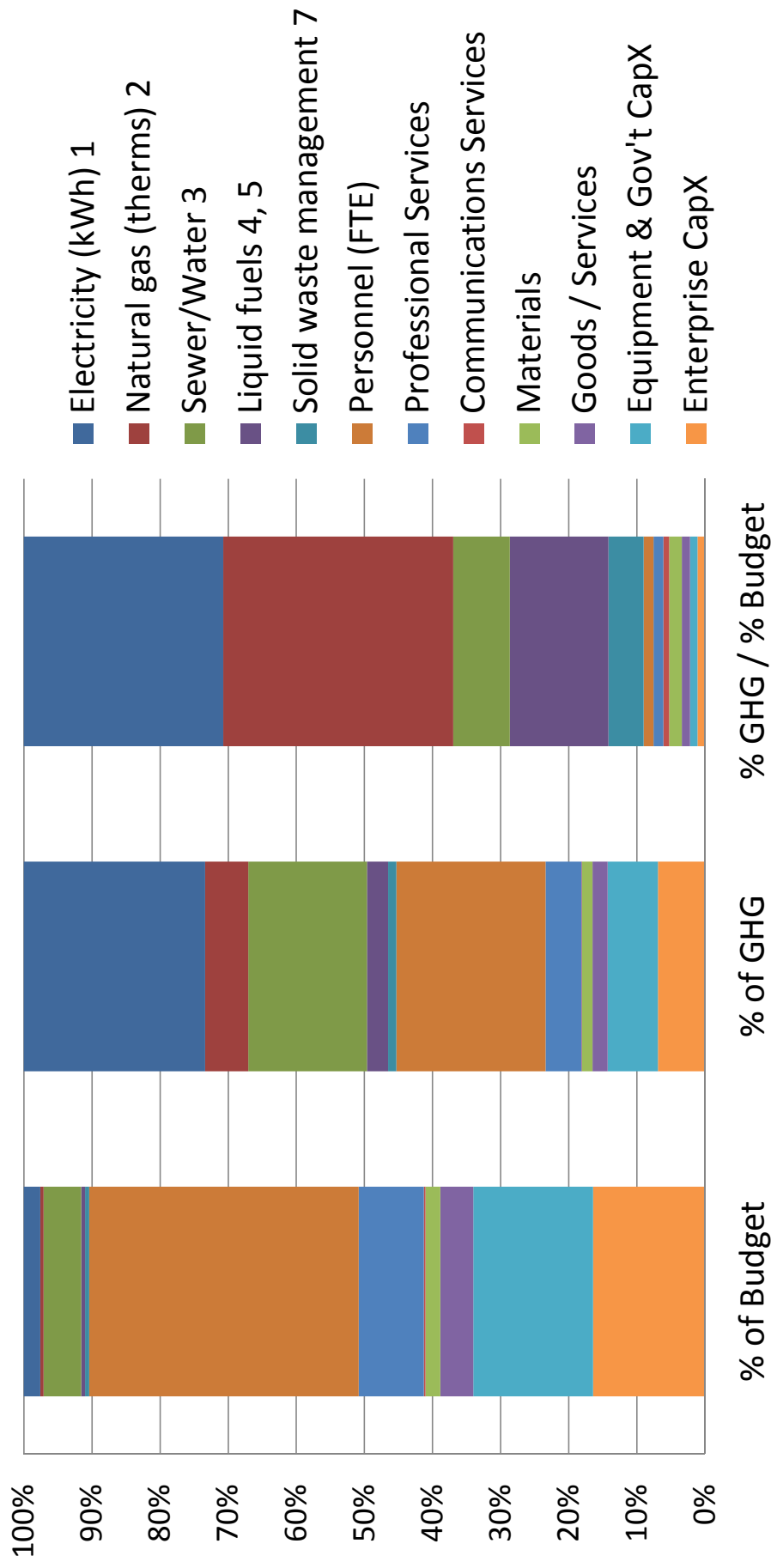


Table 2: Footprint, Indicators, Tools and Policies for Sustainability by Major Categories of Expense.					
Major Categories	Notable Services	Notable Footprints	Indicators	Municipal Organization Policy / Tools	Citywide Policy /Tools
<b>Direct Burn / Energy Conversions / Territorial GHG</b>					
Electricity (kWh) 1	Utilities, Park Enterprises	GHG, Land	B3, Xcel	Comprehensive Plan	
Natural gas (therms) 2	Park and Government	GHG	B3, Centerpoint	Comprehensive Plan	
Sewer/Water 3	Sanitary Utility / MCES	Water, GHG	RII, B3	Comprehensive Plan	Comprehensive Plan
				CWRMP	
Liquid fuels 4, 5	Fleet, Transportation	GHG, Land	RII, City Fleet Report	Comprehensive Plan	
Solid waste management 7	Contracted recycling	Land			
	Solid Waste				
<b>Consumption Based / Supply Chain / Procurement / Pathways</b>					
Personnel (FTE)	Public Safety				
Professional Services					
Communications Services					
Materials	Transportation	GHG, Land		Procurement Policy	
Goods / Services				Procurement Policy	
Equipment & Gov't CapX	Park, Fleet		Envision Score	Envision, Living Streets	Envision, Living Streets
Enterprise CapX	Utilities, Transportation		LEED, Envision	LEED, Envision	LEED, Envision

Table 3: Conceptual Level / Greenhouse Gas Emission Reduction Options: City Operations								
Major Categories	Potential GHG Reduction Strategies	Approximate One Time / Capital Cost	Approximate Annual Cost	Possible Reduction	Possible Reduction (Tonnes GHG)	Organization-Wide % Energy Use	10 year \$Cost or (\$savings) / Tonnes GHG Reduced	Notes
Direct Burn / Energy Conversions / Territorial GHG								
Building Electricity (kWh)	Energy conservation	\$50,000	-\$70,000	10%	704	1.5%	-92	
	Building continual recommissioning (electric)	\$250,000	-\$100,000	15%	1056	2.3%	-71	
	Building retrofit (Electric)	\$4,500,000	-\$300,000	30%	2112	4.6%	71	
Utility Electricity	Pump and lift optimization	\$900,000	-\$30,000	10%	510	1.1%	118	Capital intensive to cut long service life short.
	Negotiate renewable purchase	\$0	\$250,000	100%	12136	26.6%	21	Easy to do, adds variability in price
	Direct carbon market offset		\$200,000	100%	12136	26.6%	16	Potentially high variability in price, possible to increase scale
Natural gas	Xcel Conservation Target	\$0	\$0	30%	3641	8.0%	0	Will happen based on Xcel plan.
	ing continual recommissioning (Gas)	\$50,000	-\$45,000	15%	435	1.0%	-92	
	Building retrofit (Gas)	\$2,500,000	-\$100,000	30%	869	1.9%	173	
	Cogeneration	\$2,500,000	-\$200,000	50%	1449	3.2%	35	
Sewer/Water 3								This option reduces Edina share of MCES load and GHG, but would not reduce electric load at treatment plant substantially because total waste determines energy demand.
	Water Conservation	\$100,000	\$50,000	10%	794	1.7%	76	
	Negotiate pass through renewable (wastewater)	\$0	\$75,000	34%	2738	6.0%	27	Slightly more complex due to third party, but relatively easy
	Negotiate to fund biogenic efficiency project	\$1,000,000	\$150,000	15%	1192	2.6%	210	
Liquid fuels 4, 5	Fleet management / conservation	\$50,000	-\$30,000	10%	141	0.3%	-177	May conflict with service level demands
	Vehicle efficiency goal	\$50,000	-\$20,000	15%	212	0.5%	-71	
Solid waste management 7	Efficiency provisions in contract		\$25,000	10%	55	0.1%	455	Opportunity comes up at time of recycling contract
Subtotal Scope 1.2								
Consumption Based / Supply Chain / Procurement GHG								
Personnel (FTE)	N/A							No actionable practices suggested
Professional Services	N/A							No actionable practices suggested
Communications Services	N/A							Internal plug load of servers and communications in electric above
Materials	Procurement Policy							GHG not quantified in policy
Goods / Services	Procurement Policy							GHG not quantified in policy
Equipment & Gov't CapX	LEED and Envision							Infrastructure that serves the community can effect community wide future demand.
Enterprise CapX	LEED and Envision							Projects with small one-time impact to GHG can determine future fuel inputs.

Table 4: Conceptual Level / Greenhouse Gas Emission Reduction Plan: City Operations									
Example Reductions		Recommended 2015-2025 Actions for 50% reduction							
Percent		Cumulative	% Reduction	Cumulative	Reduction	Strategy			
10%	4561	8.0%	8.0%	3641	3641	3641 Xcel Conservation Target			
20%	9123	9.5%	1.5%	4345	704	Energy conservation			
30%	13684	11.8%	2.3%	5400	1056	Building continual recommissioning (electric)			
40%	18245	12.8%	1.0%	5835	435	Building continual recommissioning (Gas)			
50%	22807	39.4%	26.6%	17970	12136	Negotiate renewable purchase			
60%	27368	39.9%	0.5%	18182	212	Vehicle efficiency goal			
70%	31929	44.5%	4.6%	20294	2112	Building retrofit (Electric)			
80%	36491	50.5%	6.0%	23031	2738	Negotiate pass through renewable (wastewater)			
90%	41052	50.8%	0.3%	23173	141	Fleet management / conservation			



## Appendix 5: School Facilities

At the District level, the lighting standard for replacement and installation is LED. All new construction will use LED lighting. Building management systems are being installed, allowing for control of all building units, giving the ability to shut buildings off and decrease electricity consumption. For paving projects, the District is using an Under Ground Water Retention System to hold rainwater back. Fertilizer usage for District grounds has been reduced by one third, as well as a reduction in salt distribution with eight staff members having been trained and certified through the MPCA Salt Distribution Certification. When re-roofing facilities, the District has committed to adding considerable insulation that will result in less heat loss.

Architecturally, the District has committed to a roofing requirement of R-30 minimum, with 5 ½" base plus roof slope for drainage. Walls will have a minimum of R-13 wall assembly and 2.5" of insulation. Low-e Argon filled energy efficient glazing will be used. All paints are required to meet low VOC Green Seal Standards, with exceptions for special epoxy or stains. The District encourages skylights to provide natural lighting to interior spaces.

The District has also committed to several mechanically-oriented sustainable strategies. High efficiency condensing boilers will be installed to serve the new building addition; there is a plan for future building-wide conversion from steam to hot water. The hot water temperature will be re-set based on outside air temperature. Variable speed pumps with premium efficiency motors for hot and chilled water distribution will be used, and water chillers will be selected to exceed code minimum efficiency standards. A cooling tower sump basin will be used to minimize cooling tower water treatment. High efficiency condensing hot water heating plants will be used. In new additions, perimeter fin tubs will be used for unoccupied heating. Air handling units serving classrooms will have total heat recovery. Large volume spaces, including game gymnasiums, will be provided with variable speed fans for multiple modes of operation to save energy. High volume spaces will be provided with de-stratification fans. There is a planned building wide conversion from constant volume reheat air delivery to variable air volume. Carbon dioxide control of outside air volumes will be used to prevent over-ventilation during low occupancy periods. Building Automation Systems controls will be installed for enhanced control, monitoring of system performance, alarm logs, and trending to aid in troubleshooting.

Electrical sustainability strategies include using robust lighting controls for LED fixtures, including dimmable fixtures, daylight harvesting, and manual on-switching. Occupancy sensors will be used to conserve energy. There will be time of day scheduling used for lighting in common areas and exterior lighting. District-wide exterior lighting is being systematically replaced with LED. The District also plans to install photovoltaic solar panels on the high school on an educational scale. A larger solar plant is being investigated for the new transportation building site.

## Appendix 6: Focus Area Options Considered by the Planning Team

The Energy Action Team considered a variety of focus areas before voting on the final five, which later evolved into a final three. The following list outlines several of the focus areas considered by the team.

<b>Residential Brainstormed Focus Areas</b>	
<b>Information Campaign</b>	There are more than 22,560 housing units in Edina (2010 US Census), and many potential energy savings actions that could be promoted.
<b>Windsource®</b>	Almost 700 households have enrolled in Windsource®. In 2014, Windsource® cost \$0.68 per block (100 kWh) per month. For the lowest residential user in Edina, the cost would be \$21.36/year, and the highest would be \$258.40/year.
<b>Residential Redevelopment</b>	Edina issued more than 100 home building permits this year and a similar number last year. There were 46 Edina Energy Star Homes participants in 36 months, with average savings of 1,360 kWh.
<b>Schools/Service Learning</b>	There are 8,500 students at Edina schools, and almost a third of Edina households have children under the age of 18. The school also has a green team. Opportunities would be to leverage the May projects for high school seniors.
<b>Feedback-based Neighborhood Competition</b>	There are nine registered neighborhoods in Edina (Normandale, Pamela Park, Strachauer Park, Morningside, Countryside, Concord, Arden Park, Chowen Park, Creek Knoll), and they represent 24% of Edina's residential energy use.
<b>Feedback-based School Competition</b>	As we researched neighborhood competitions, this came up as an alternative. There are six elementary schools with rough geographic enrollment areas. There are 3,752 elementary students. Competition can be inspiring, and families may be connected to their schools more so than neighborhoods.
<b>Youth Sports Teams</b>	There are many youth sports teams, including 90 at the high school. Some sports teams have service hours. Distribution of materials at sports games has been ineffective in the past.
<b>Neighborhood Association Engagement</b>	There are nine registered neighborhoods in Edina, and they represent 24% of Edina's residential energy use. In 2010, the Morningside Neighborhood Association helped to distribute information about Home Energy Squad visits.

## Business Brainstormed Focus Areas

### Information Campaign

There are more than 4,000 businesses in Edina and several potential energy actions that could be promoted. Businesses make up 66% of Edina's electricity usage.

### Outreach Through Organizations

There are several active business organizations in Edina, including the Chamber of Commerce (400 members), Rotary Club (160+), and 50<sup>th</sup> and France organization.

### Target the Retail Sector

There are several retail businesses in Edina, including at 50<sup>th</sup> and France, Southdale, the Galleria, and Centennial Lakes Plaza. A recent lighting project saved a Galleria store ~50% in electricity costs. Retail locations could be targeted geographically and through organizations.

### Business Recognition and Awards

There are many businesses to target, but this would require extensive awareness building to be successful. There are many electricity-savings actions that could be encouraged.

### Windsource<sup>®</sup>

In 2014, Windsource<sup>®</sup> cost \$0.68 per block (100 kWh). Average commercial consumption in Edina is about 15,000 kWh monthly, so an entire usage subscription would cost approximately \$102/month with current Windsource<sup>®</sup> premiums.

### Target the Healthcare Sector

Fairview Southdale hospital is a large facility that has already won awards for sustainability. There are many clinics and medical offices in the Edina as well, and they could be targeted geographically. Healthcare in general is a very energy intensive sector.

## Other Brainstormed Focus Areas

### Leverage School New Construction and Maintenance Projects

There are opportunities for efficiency and renewables in school projects, and a \$125M bond measure was passed in May to renovate schools.

### Leverage a Campaign Like Edina Unplugged

There are many businesses and residents in Edina that could be reached and this could work as an awareness campaign tactic.

### Build Recognition of Edina as an Energy-Conscious City

The City is already enrolled in ICLEI, GreenStep Cities, and the US Mayor's Climate Protection Agreement.

### Leverage Existing Environmental Action Groups in the Community

There are a few environmental action groups in Edina—Citizen's Climate Lobby, Cool Planet, and a school-associated group, Project Earth.

### Target Hennepin County Facilities Energy Use

There are two Hennepin County facilities in Edina. Southdale Service Center, which includes a library, and the Edina Library. In 2015, there was an article that discussed the possibility of moving the Southdale Service Center.

## Appendix 7: Detailed Focus Area Timelines

### Residential Information Campaign Actions by Quarter

#### Q3 2016: (July-Sept)

- Update on availability of community solar for Edina residents and include in messaging
- Develop and refine initial campaign messaging
- Scope potential research needs to support effective campaign
- July: Collect data to show energy information by neighborhood and draft information for City website
- July: Start research for Sun Current feature / case study
- August: report on results of research
- August: Launch City website which will include clear summary of campaign, availability to track, and links to take action
- September: Publish Sun Current feature
- September: Develop case studies and get more information

#### Q4 2016: (Oct-Dec)

- Oct: Design potential social media campaign design, launch phase I
- Oct: Use NextDoor (make the message catchy, a challenge, focus on new technologies)
- Nov: Conduct signups at Fall Event?
- Nov: Update City website with new tracking information (and revised message, if needed)
- Dec: Advertise smart thermostat rebates
- Dec: Check on progress to goal

#### Q1 2017: (Jan-Mar)

- Jan: Update messaging to reflect new opportunities
- Jan: (Start development for Sun Current feature 2?)
- Feb: Launch social media strategy phase II
- Feb: Update City website
- Feb: (Prep for EEC Forum?)
- March: Sun Current feature 2

#### Q2 2017: (April-Jun)

- April: EEC Forum
- May: Update City website
- June: (Prep for Fall Event?)

**Q3 2017: (July-Sept)**

- Aug: Update City website
- Sept.: Fall event

**Q4 2017: (Oct-Dec)**

- TBD

**Business Energy Actions by Quarter****Q3 2016: (July-Sept)**

- Begin to identify largest 400 businesses:
  - Compile a database/spreadsheet of largest users, identifying contacts who are in charge of billing as well as PR
  - Use a map to help identify regions with high usage intensity
  - Note that businesses with more square footage tend to use more energy
  - Use City list of all businesses in Edina
  - Use City records of water records
  - Ask Xcel Energy to email the top 400 premises and invite them to self-identify, or to email all of the accounts with account managers and ask them to self-identify
- Partner with local entities to help identify and contact largest businesses
  - Chamber of Commerce and other local business organizations
  - City Manager
  - Mayor and City Council
  - Economic Development Staff

**Q4 2016: (Oct.-Dec)**

- Narrow in on first 100 businesses to contact
- Continue to identify largest 400 businesses
- Plan outreach to largest businesses.
  - Launch campaign to call businesses to partnership: A big Council (Mayor keynote) and Chamber presence, two or three local significant success stories highlighting (a) why this made financial sense and how the company is paying for it; (b) the GHG and other green impacts; and (c) why it's important for their company to be able to claim they are an Edina Emerald Energy leader.
  - Type of contact: Leadership level outreach (emphasize recognition and \$ savings); Need to have both facility managers and other leaders on board.
  - Invite business leaders or assigned representative to join the working group.
  - Messaging: Publicize the campaign, with events where businesses can get recognized. Money savings and recognition from a professional organization such as

Chamber of Commerce or the City (Emerald Energy Business award?). Need to have the incentives lined up before the kickoff meeting, would need to ask the local Chamber approve a recognition program several months before kick-off.

### Q1 2017: (Jan-Mar)

- Continue planning of large business outreach
- Roll out outreach campaign to largest businesses
  - Coordinate with City Council, who may provide guidance
  - Track outreach
- (By December 31, 2016) Launch a city website that contains resources and program information.
- Develop list of tracking software/tools to recommend to businesses.
- (By March 1, 2017) Develop and identify a tool that we will use to measure results
  - Needs to set a baseline, measure, and report
  - Research available software or reporting tools
  - Leverage CERTs and/or others for technical energy assistance
- Plan first year awards event

### Q2 2017: (April-Jun)

- Report to EEC, City Council
- Gather Recommendations for the future, including policy changes
- TBD
- Track progress

### Q3 2017: (July-Sept)

- Report to EEC, City Council
- Gather Recommendations for the future, including policy changes
- TBD
- Track progress

### Q4 2017: (Oct-Dec)

- Report to EEC, City Council
- Gather Recommendations for the future, including policy changes
- TBD
- Track progress



## Appendix 8: Partners in Energy Planning Memorandum of Understanding

**To:** MAYOR AND CITY COUNCIL

**Agenda Item #:** IV.C.

**From:** Scott H. Neal, City Manager

**Action** ☒

**Date:** June 17, 2015

**Discussion** ☐

**Subject:** Partners in Energy Program

**Information** ☐

### Action Requested:

Motion to approve Memorandum of Understanding with Xcel Energy regarding the City's participation in Xcel Energy's Partners in Energy program.

### Information / Background:

Xcel Energy has selected the City of Edina to participate in its Partners in Energy program. The broad purpose of the program is to assist and support communities develop and implement an energy action plan that is designed to meet the communities' individual energy needs.

To be part of the program, the City must approve a Memorandum of Understanding (MOU) with Xcel Energy. Xcel commits to the following in the MOU: assistance identifying and recruiting stakeholders; analysis of community energy use and program participation; facilitation of planning sessions; training and guidance developing goals and strategies; documentation and delivery of the energy action plan; and commitment to completing the plan development.

The City agrees to the following in the MOU: establishing a single point of contact; providing facilities for meetings; providing access to existing energy-related plans and programs; involvement in developing implementation strategies; commitment to completing the plan development; agreement that the energy plan resulting from this work will be available to the public.

Participation in this program is consistent with the overall work plan of the Energy & Environment Commission and is supportive of the Council's previous direction on energy conservation policy issues.

I briefed the EEC's Climate Commitment Team on this opportunity. They enthusiastically endorsed the City's participation in the program. The City Attorney has reviewed the MOU and has no concerns with the agreement.

I recommend the City Council approve the requested motion approving the proposed Partners in Energy program Memorandum of Understanding.



## **Memorandum of Understanding Phase 1 – Plan Development**

Mr. Scott Neal  
Edina City Manager  
4801 West 50<sup>th</sup> Street  
Edina, MN 55424

Congratulations on being selected to participate in Xcel Energy's Partners in Energy. This offering is designed to provide your community with the tools and resources necessary to develop and implement an energy action plan that reflects the vision your community has for shaping energy use and supply in its future. Participation is intended to span 24 months with the initial 4-6 months dedicated to developing of a strategic energy action plan and the remaining time focused on the implementing that plan.

The intent of this Memorandum of Understanding is to confirm the City of Edina's intent to participate in the initial plan development phase of Partners in Energy and outline the commitment that your community and Xcel Energy are making to this collaborative initiative. The primary objective of this phase of the offering is to develop your energy action plan.

### **In order to achieve this Xcel Energy will provide:**

- Consulting support to assist in identifying potential community stakeholders, and constructing or delivering an invitation or informational announcement regarding the planning process.
- Data analysis of community energy use and Xcel Energy program participation to the extent that it is legally and technically prudent and feasible. The results can be used to identify potential opportunities to implement plan strategies. Xcel Energy will attempt to integrate data provided by the City of Edina into the analysis if feasible.



- Professional facilitation of 3-5 plan development work sessions with the community stakeholder group to develop the energy action plan's vision, focus areas, goals and implementation strategies.
- Assistance as needed in synthesizing the community and program data collected with the vision of the community to identify attainable goals that align with suitable strategies and tactics.
- Development of the documented energy action plan that will incorporate inputs from the stakeholder planning team and will be accessible to the community.
- Commitment to delivering an actionable and complete energy action plan within six months of City of Edina and Xcel Energy signing this MOU.

**Although participation in the Plan Development phase of Partners in Energy requires no monetary contribution, the community, the City of Edina, does agree to provide:**

- A single contact point to work with recruiting stakeholders, coordinating planning meeting logistics, and coordinate distribution of deliverables and lead participation of the community.
- Meeting facilities to host the stakeholder group during development of the plan.
- Identification of existing community energy plans or programs that could be leveraged in successful development and delivery of this plan.
- Good-faith evaluation of the recommendations and analysis provided and fair consideration of the potential strategies and tactics identified that align with the community's goals.
- Commitment to delivering an actionable and complete energy plan within six months of the City of Edina and Xcel Energy signing this MOU.
- Public distribution of the work products developed with the support of Xcel Energy's Partners in Energy.

**Resource Commitment Summary  
Plan Development Phase**

City of Edina	Xcel Energy
<ul style="list-style-type: none"><li>• Single point of contact</li><li>• Meeting facilities</li><li>• Access to existing energy-related plans and programs</li><li>• Involvement in developing implementation strategies</li><li>• Commitment to completing the plan development</li><li>• Agreement that the energy plan resulting from this work will be available to the public</li></ul>	<ul style="list-style-type: none"><li>• Assistance identifying and recruiting stakeholders</li><li>• Analysis of community energy use and program participation</li><li>• Facilitation of planning sessions</li><li>• Training and guidance developing goals and strategies</li><li>• Documentation and delivery of the energy action plan</li><li>• Commitment to completing the plan development</li></ul>

The Memorandum of Understanding for the Implementation Phase of Partners in Energy will be developed upon completion of your energy action plan and will outline your goals and the resource commitment from Xcel Energy and the City of Edina.

All communications pertaining to this agreement shall be directed to Scott Neal, on behalf of the City of Edina and Tami Gunderzik on behalf of Xcel Energy.

Thank you again for your continued interest in Xcel Energy's Partner in Energy. We look forward to assisting the City of Edina in the development of an action energy plan.

**For the City of Edina:**

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Date: \_\_\_\_\_

**For Xcel Energy:**

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Date: \_\_\_\_\_

## Appendix 9: Xcel Energy Demand Side Management Program Summaries

### Appendix — Resources

Minnesota Residential Studies, Audits and Services				
Efficiency Type	Deliverable	Description	Gas or Electric	Study Rebate Service
<b>Billing and Payment</b>	My Account with eBill	My Account is Xcel Energy's online account management service that provides customers with a personalized summary of their account. Features include eBill, eBill payment, usage history, account info, product/program offers, energy efficiency info, and the customer preference center.	E G	Service
<b>Fuel Conversions</b>	Switch from propane or fuel oil to natural gas	Convert your primary fuel in your home and save. Potential construction charge for distances from distribution gas line greater than 75 ft and one-time account set-up charge.	G (in area)	Service
<b>Home Audits</b>	Home Energy Savings Program	After an in-home evaluation, qualifying residents may be eligible for services and equipment that include CFL bulb upgrades, insulation and weather stripping, appliance replacements and other equipment and appliances,	E G	Service
	Low-Cost Home Energy Audits	Home Walkthrough – Whole-house visual inspection and basic energy bill analysis for \$30. Standard Audit – Home Walkthrough plus blower door test for \$60. Standard audit with Infrared – Standard Audit plus an infrared camera scan for \$100 (where available).	E G	Audits
<b>Home Services</b>	Home Energy Squad®	Low-cost service to provide and install efficient items such as compact fluorescent light bulbs, programmable thermostats, weather stripping and more. Must have natural gas service from Xcel Energy or CenterPoint Energy (\$70).	E G (CenterPoint Energy gas)	Service
	Home Performance with ENERGY STAR®	By installing multiple measures after a \$60 energy audit, natural gas customers are eligible for cash rebates.	E G	Audits
	Saver's Switch®	During peak air conditioning use days, participating residents can save 15% off of their electric energy use June through September by allowing a lowering of energy use from their AC units.	E G	Services Rebates
<b>New Home Construction</b>	ENERGY STAR Homes	Free home performance testing, inspections and consulting services to help meet the ENERGY STAR guidelines set by the U.S. Environmental Protection Agency. We conduct regular site inspections and arrange an independent inspection at completion to ensure homes meet all required builder rebates.	E G	Study

## Minnesota Residential Rebate Programs

Efficiency Type	Deliverable	Description	Gas or Electric	Study Rebate Service
Cooling Efficiencies	Central Air Conditioning and Air Source Heat Pumps	Our Central AC Rebate program is designed to generate maximum energy savings for residents by focusing on proper installation practices. Qualifying equipment and installations may earn up to \$450 cash rebates. Must be installed by a contractor registered in Xcel Energy's Cooling program.	E	Rebate
	Ground Source Heat Pumps	Qualifying ENERGY STAR ground source heat pumps are eligible for a cash rebate of \$150 per ton (five ton limit). Must be installed by a contractor registered in Xcel Energy's Cooling program.	E	Rebate
Environmental	Refrigerator/Freezer Recycling	We pick up resident's old working, second fridge or freezer and recycle it free of charge as well as give a \$50 cash rebate and two compact fluorescent light bulbs.	E	Rebate Service
	CFL Bulb Recycling	Compact Fluorescent Lights (CFLs) contain small amounts of mercury that are harmful to the environment. Because of this, they should not be disposed in household trash receptacles. Xcel Energy provides free CFL recycling at participating retailers and Minnesota county recycling centers.	E	Service
Heating Efficiencies	Heating/ECM Rebates	Qualifying natural gas boiler, gas furnace or factory installed Electronically Commutated Motor (ECM) are eligible for cash rebates.	E G	Rebate
	Water Heating Rebates	Qualifying energy-efficient water heaters can earn rebates.	G	Rebate
	Insulation Rebates	Well-insulated homes can save up to 20% on heating and cooling costs. Rebates for 20% of project cost with a \$300 annual cap. Insulation upgrades existing single-family and multi-unit homes, up to four units, that professionally install insulation. Additional restrictions may apply.	G E (electric heat)	Rebate
Lighting Efficiencies	Home Lighting	Energy-efficient compact fluorescent light bulbs and light-emitting diodes can be purchased at a discount at participating retailers.	E	Rebate

Some restrictions apply; programs and rebates are subject to change. Please see program application forms official program details, terms and conditions.

## Minnesota Residential Renewable Options

Deliverable	Description	Fuel Type	Existing or New	Study Rebate Service
Solar*Rewards®Community®	A developer or a community installs a solar garden. Residents purchase or lease shares and receive credit on their monthly Xcel Energy electricity bills for their portion of solar energy produced by the solar gardens.	E	E N	Service
Solar*Rewards®	Residents receive incentives for installation of photovoltaic (PV) solar panels. The state of Minnesota may offer an additional rebate if you buy solar panels from Minnesota manufacturers.	E	E N	Service
Windsource®	Residents can purchase renewable, wind energy through Windsource. Subscriptions start at less than \$1 per month for one, 100-kilowatt-hour block*.	E	E N	Service

Some restrictions apply; programs and rebates are subject to change. Please see program application forms official program details, terms and conditions.

## Minnesota Business Audits, Studies & Services

Deliverable	Description	Gas or Electric	Study Rebate Service
<b>Business New Construction Energy Design Assistance*</b>	An integrated design process that includes whole building computer modeling and verification of measures for new buildings, additions or major renovations. Finished space 20,000 sq. ft. or larger	G E	Study Rebates
<b>Business New Construction Energy Efficient Buildings*</b>	Free design review to identify potential rebates and energy-saving opportunities, plus rebates for making efficiency improvements to your new building, addition or major renovation. Finished space smaller than 20,000 sq. ft.	E G	Study Rebates
<b>Commercial Efficiency*</b>	Operations and facilities analysis and support to help large commercial operations create a long-term energy management plan. (Designed for energy conservation potential of 1 GWh or 4,000 Dth)	E G	Study Rebate
<b>Data Center Efficiency Study*</b>	Data center energy efficiency analysis and identification of opportunities to improve IT equipment and/or facility systems to run at peak efficiency	E G	Study Rebate
<b>Free Online Assessment</b>	For businesses unsure of investing in an on-site energy audit, we have a FREE online energy assessment tool that offers a basic report on hidden energy-savings potential: <a href="http://xcelenergy.com/OnlineAssessment">xcelenergy.com/OnlineAssessment</a>	E G	Tool
<b>Fluid System Optimization* (Compressed Air, Pumps, Fans, Blowers, Vacuums)</b>	Rebates for a study to analyze your fluid systems to discover no-cost/low-cost improvements as well as identify capital projects to increase your system's efficiency, reliability and performance	E	Study Rebate
<b>Heating Efficiency Steam Trap Audits and Rebates</b>	Identify failed traps and benefit from cost-saving rebates to repair or replace traps	G	Study Rebate
<b>Heating Efficiency System Optimization Study*</b>	Analyze all or part of heating system to uncover and/or assess natural gas savings opportunities, including no-/low-cost adjustments and/or equipment improvements	G	Study
<b>Lighting Redesign Study*</b>	A complete lighting analysis to identify ways to improve your lighting efficiency in over-lit or wrongly-lit spaces. (Not for 1-to-1 lighting retrofits; must be performed by a certified lighting professional)	E	Study Rebates
<b>Process Efficiency*</b>	Operations and facilities analysis to help create a long-term energy management plan. Industrial manufacturing customers must have cumulative energy conservation potential of 1 GWh or 4,000 Dth	E G	Study Rebate
<b>Recommissioning*</b>	Energy experts conduct a Recommissioning study and provide recommendations for building tune-ups. Many measures have simple paybacks of less than one year. Choose what to implement and get rebates on both the study and implementation measure(s)	E G	Study Rebates
<b>Refrigeration Recommissioning*</b>	Rebates for tuning up existing commercial refrigeration systems in grocery outlets, convenience stores and other facilities with refrigerated cases	E	Study Rebates
<b>Turn Key Services</b>	Low-cost, on-site assessments that identify energy-saving opportunities for community businesses. Includes free project implementation services and 30% bonus rebates on rebate-eligible improvements made within 12 months from assessment date. If businesses already have energy-saving projects identified, they can still take advantage of our free implementation services	E G	Study Service Rebates
<b>My Account with eBill</b>	My Account is Xcel Energy's online account management service that provides business customers with a summary of their account to help manage energy. Features include eBill, eBill payment, usage history, account info, product/program offers, energy efficiency info, and the customer preference center	E G	Services
<b>PERSONALIZED BUSINESS ACCOUNT SERVICES</b>	Our efficiency specialists are your go-to support for your businesses' energy needs, available to: <ul style="list-style-type: none"> <li>• Answer questions</li> <li>• Suggest energy recommendations tailored to your business</li> <li>• Help you navigate program options, requirements and documentation</li> <li>• Discuss different ways to get started</li> </ul> Contact your Xcel Energy account manager, or our energy efficiency specialists at <b>1-855-839-4362</b> or <a href="mailto:energyefficiency@xcelenergy.com">energyefficiency@xcelenergy.com</a> .		Services
<b>Trillion BTU Financing</b>	Loan program that leverages public and private money to help businesses make improvements that lower energy costs. Delivered by St. Paul Port Authority.		Service

\*Requires preapproval prior to starting the project or study.

Some restrictions apply; programs and rebates are subject to change. Please see program application forms official program details, terms and conditions.

## Minnesota Business Rebate Programs

Deliverable	Description	Gas or Electric	Study Rebate Service
<b>Cooling Efficiency</b>	Rebates for energy-efficient air conditioning equipment including rooftops, chillers, water source heat pumps, zero-loss energy doors, PTACs and more	E	Rebate
<b>Computer Efficiency</b>	Rebates available for virtual desktop infrastructure (VDI) or PC power management software	E	Rebate
<b>Custom Efficiency*</b>	Rebates for energy-efficient technologies or process improvements not covered under our prescriptive programs	E G	Rebate
<b>Data Center Efficiency Equipment Rebates*</b>	Custom rebates for opportunities identified through a Data Center study	E	Rebate
<b>Efficiency Controls*</b>	Rebates for control systems that save energy by automating building systems such as lighting, HVAC and others	E	Rebate
<b>Fluid System Optimization*</b>	Rebates for efficiency improvements from upgraded equipment identified in a fluid system optimization study	E	Rebate
<b>Foodservice Equipment</b>	Cash-back rebates for purchasing and installing qualifying energy-efficient foodservice equipment such as convection ovens, broilers, demand controlled ventilation, ENERGY STAR dishwashers and more	E G	Rebate
<b>Heating Efficiency</b>	Prescriptive rebates for qualifying commercial heating systems used for space heating, domestic water heating and up to 30% additional process load	E G	Rebate
<b>Lighting Efficiency Retrofit Rebates</b>	Rebates for purchasing and installing energy-efficient lighting in an existing building	E	Rebate
<b>Lighting Efficiency New Construction Rebates</b>	Rebates for purchasing and installing energy-efficient lighting for new or significantly renovated facilities	E	Rebate
<b>Motor and Drive Efficiency</b>	Prescriptive and custom rebates for installing variable frequency drives (VFD), adjustable speed drives (ASD) and Constant Speed Motor Controllers. Motor rebates are available for NEMA Premium® enhanced new, upgrade and enhanced upgrade motors	E	Rebate

\*Requires preapproval prior to starting the project or study.

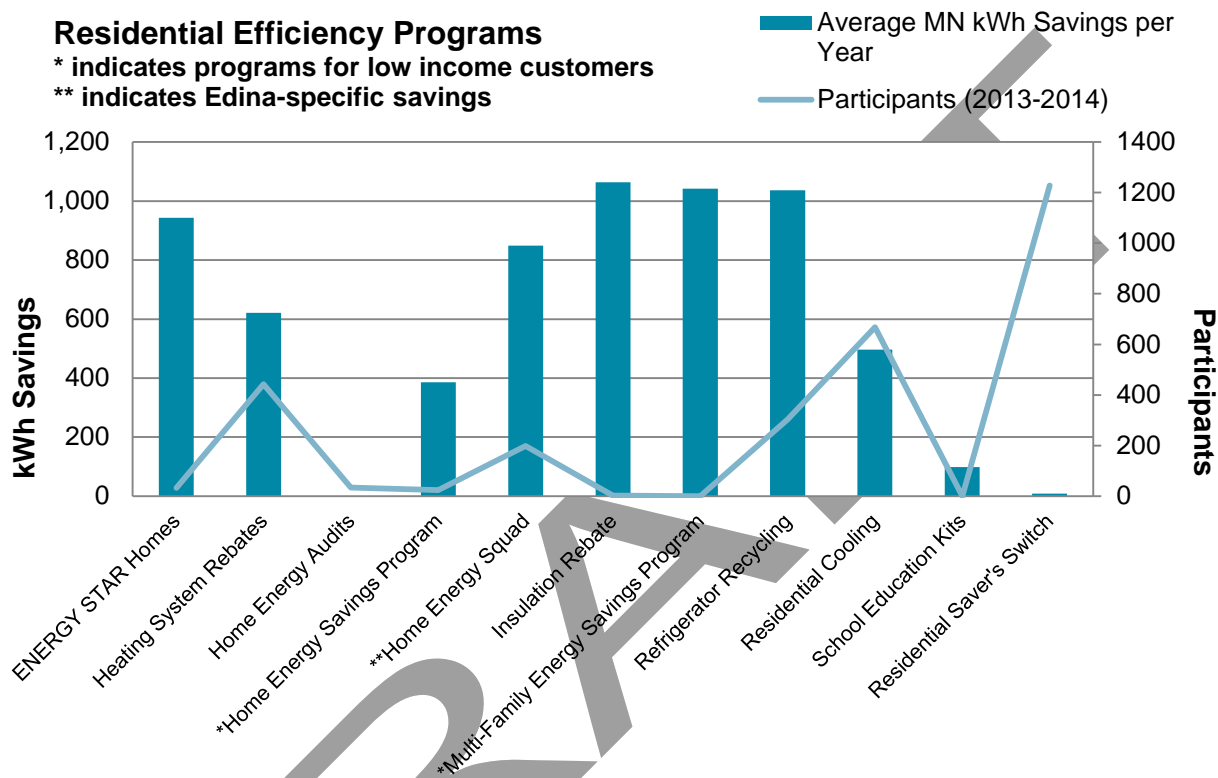
Some restrictions apply; programs and rebates are subject to change. Please see program application forms official program details, terms and conditions.

## Minnesota Business Renewable Options

Deliverable	Description	Fuel Type	Existing or New	Study Rebate Service
<b>Solar*Rewards</b>	Rebates based on energy production for installing solar panels on your business. Participation is limited. Additional incentive may be available through the Made in Minnesota program. Additional payment available for excess energy produced.	E	E N	Service
<b>Windsource</b>	Businesses can purchase renewable energy through Windsource. Subscriptions start at less than \$1 per month, for one, 100 kilowatt-hour block.*	E	E N	Service

## Appendix 10: Detailed Program Participation and Associated Savings

### Residential Programs



#### Xcel Energy Residential Program Savings Information

Program	Participants (2013)	Participants (2014)	Average MN kWh Savings per Year
ENERGY STAR Homes	21	12	943
Heating System Rebates	250	193	621
Home Energy Audits	15	19	Indirect savings
Home Energy Squad	82	116	820*
Insulation Rebate	0	2	1,064
Refrigerator Recycling	138	165	1,036

Residential Cooling	338	330	496
School Education Kits (Available for 4 <sup>th</sup> and 5 <sup>th</sup> grade classrooms)	n/a	n/a	98
Residential Saver's Switch	438	790	8

\*Edina-specific savings average

### Xcel Energy Low Income Program Savings Information

Program	Participants (2013)	Participants (2014)	Average MN kWh Savings per Year
Home Energy Savings Program	10	14	386
Multi-Family Energy Savings Program*	0	0	1,042

\*Separate from the recently launched Multi-Family Building Efficiency program.

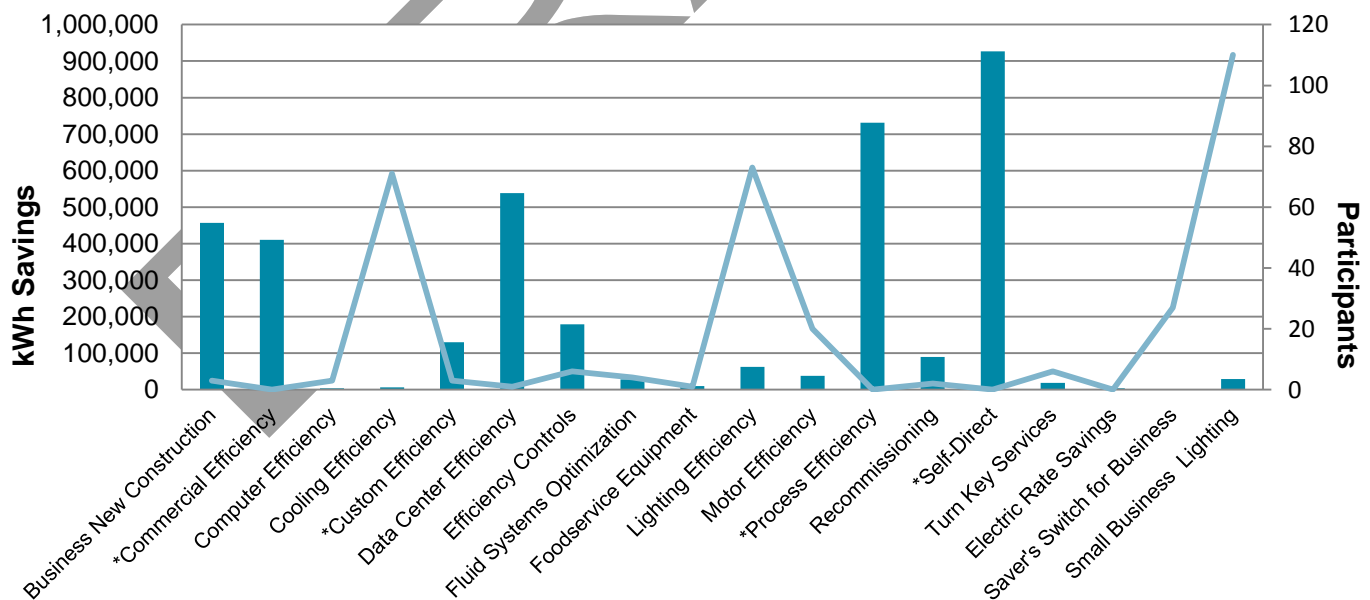
## Business Programs

### Business Efficiency Programs

\* indicates programs for the largest/industrial customers

■ Average MN kWh Savings / Year

— Participants (2013-2014)





<i>Xcel Energy Commercial Program Savings Information</i>			
<i>Program</i>	<i>Participants (2013)</i>	<i>Participants (2014)</i>	<i>Average MN kWh Savings per Year</i>
Business New Construction	1	2	457,204
*Commercial Efficiency	0	0	410,192
Computer Efficiency	1	2	3,987
Cooling Efficiency	33	38	6,009
*Custom Efficiency	2	1	129,790
Data Center Efficiency	1	0	538,633
Efficiency Controls	5	1	179,315
Fluid Systems Optimization	1	3	28,197
Foodservice Equipment	0	1	9,469
Lighting Efficiency	42	31	62,469
Motor Efficiency	12	9	38,363
*Process Efficiency	0	0	731,035
Recommissioning	1	1	89,923
*Self-Direct	0	0	926,303
Turn Key Services	5	1	18,333
Electric Rate Savings	0	0	3,532
Saver's Switch for Business	18	9	17
Small Business Lighting	51	59	23,019

\*Indicates programs for largest/industrial customers

## Appendix 11: List of Relevant Case Studies

Additional case studies will be researched and referenced during implementation of this plan.

<b>Business and Residential Case Studies</b>
<p><b>Case Studies/Clean Energy Resource Teams</b></p> <p>This website includes a searchable library of case studies, including for businesses.  <a href="http://www.cleanenergyresourceteams.org/casestudies?field_region_tid=All&amp;field_community_tid=All&amp;field_technology_tid=All&amp;page=1">http://www.cleanenergyresourceteams.org/casestudies?field_region_tid=All&amp;field_community_tid=All&amp;field_technology_tid=All&amp;page=1</a></p>
<p><b>Cool California Challenge</b></p> <p>This online resource sponsors challenges and provides tools for cities, businesses, and residents, and recognizes small business leaders.  <a href="http://www.coolcalifornia.org/small-business/business-case-studies">http://www.coolcalifornia.org/small-business/business-case-studies</a></p>
<p><b>Energy Benchmarking /City of Minneapolis</b></p> <p>An ordinance requires buildings containing at least 50,000 gross square feet that is not classified as residential or industrial use report their energy use to the City. There has been a phased roll out.  <a href="http://www.minneapolismn.gov/environment/energy/WCMS1P-116916">http://www.minneapolismn.gov/environment/energy/WCMS1P-116916</a></p>
<p><b>Live Energy Dashboard/Macalester College</b></p> <p>Energy data is available by dormitory for weekly, monthly, and per resident usage.  <a href="http://www.macalester.edu/sustainability/living-laboratory/meters/live-energy-data.html">http://www.macalester.edu/sustainability/living-laboratory/meters/live-energy-data.html</a></p>
<p><b>Master Water Stewards /Freshwater Society</b></p> <p>Modeled after Master Gardener programs, volunteer community leaders participate in a 50 hour course and are certified to install pollution prevention projects. (<a href="http://freshwater.org/master-water-stewards-a-community-approach-to-protecting-water/">http://freshwater.org/master-water-stewards-a-community-approach-to-protecting-water/</a>)</p>
<p><b>Rock the Bulb/Puget Sound Energy</b></p> <p>Through a combination of events, outreach, and prizes, residents were encouraged to switch from incandescent lighting to CFLs.  <a href="http://pse.com/aboutpse/PseNewsroom/NewsReleases/Pages/PSEs-Rock-the-Bulb-Campaign-to-Give-Away-400000.aspx">http://pse.com/aboutpse/PseNewsroom/NewsReleases/Pages/PSEs-Rock-the-Bulb-Campaign-to-Give-Away-400000.aspx</a></p>